

Spring 2019

## Personal Space and Privacy in Open Offices

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# Personal Space and Privacy in Open Offices

Kenneth Gan Heng Chien

MID Creative Component

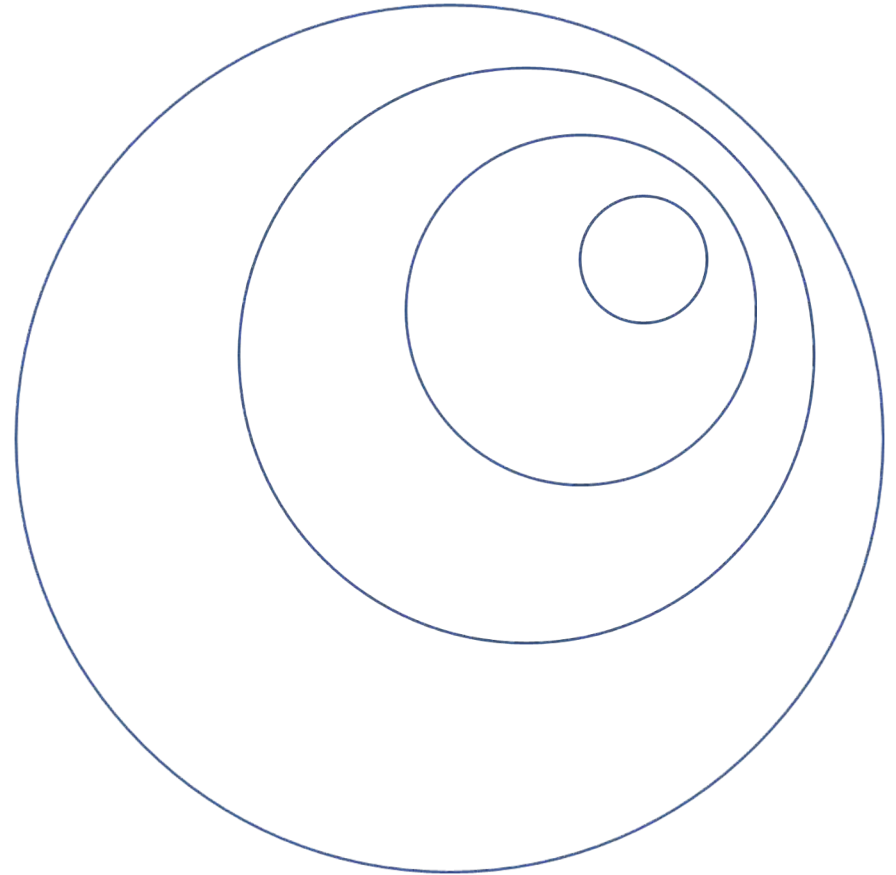
Spring 2019

# What constitutes space?

In its entity, space doesn't define the use, the meaning for space evolves from our behavior, and our sense of space is tied to our **sense of self**.

Within its interaction of space, our behavior and cultural influence help create a perspective of ownership to the spaces we inhabit, which in return correlates with how safe we feel in the given space.

(Stock, 2010)



What is the interrelation  
between work and space?



Transformation of office design  
through the years.

## Taylorism (1900)

Frederick Taylor, an American engineer became one of the first to design an office space. His office design resembled a factory floor that speaks order and efficiency. Workers are spaced evenly in an open room whilst the managers observed from private offices.





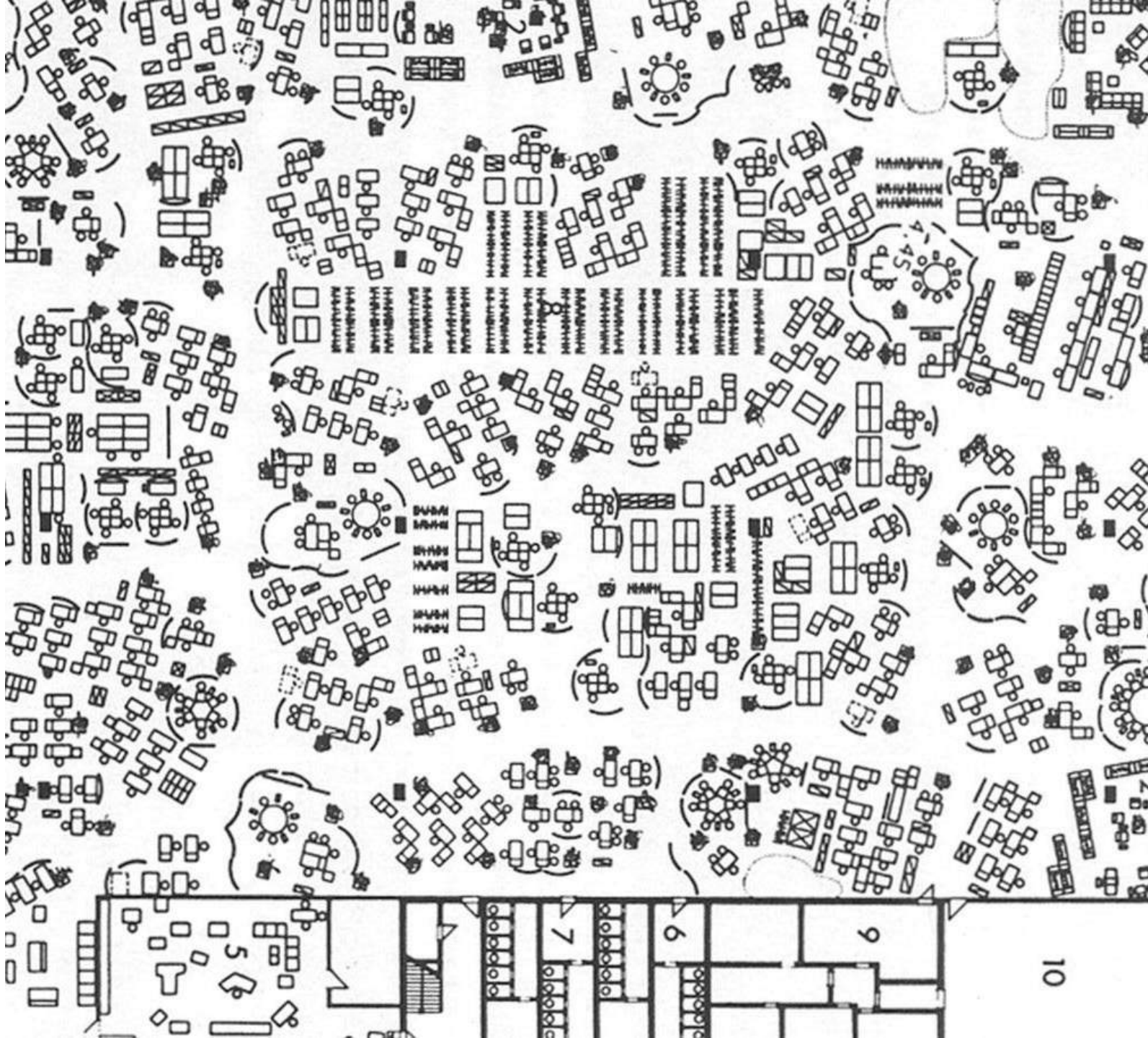
## Streamlined Office (1930s)

Frank Lloyd Wright famously designed this streamlined office to encourage more interaction between employees, note the space of workstation given for each worker. Natural material and organic shape were used as part of the office design layout to create a modern and warm space for workers.



## Bürolandschaft (1950s)

Bürolandschaft is a new type of office landscape that was intended to banish hierarchies and improve communication. It represents a reinvention of a new workspace that consists of furniture loosely scattered in an environment and partitions or privacy screens were used to create distinct areas and level of privacy.





## Cubicle Farms (1980s)

This was a bleak period for office design in which directors had less interest in their workers' well-being and more about their profitability. Through a super-economical mind-set and a fast-paced culture, came to the arrival of cubicles. Even though productivity slightly increased, the sense of community and socialization in the workplace disappeared. Today, many consider cubicles as one of the worst office installations they have ever seen.









# Present and Future

The rise of the internet has not only revolutionized connectivity, it also had a ground breaking effect on the design of the office landscape. Empowered by laptops, phones and the dot-com era, workers could now take their work anywhere and work remotely.

However, there is an added value and experience working in an office and be in proximity with colleagues that could not be obtained when working remotely. The time has come where office environment is predicated to transition to an experience-based office. Organizations must think about how the future workplace will take hold, this entails designing a space that allows workers to collaborate, socialize, network and be in community with like-minded individuals.

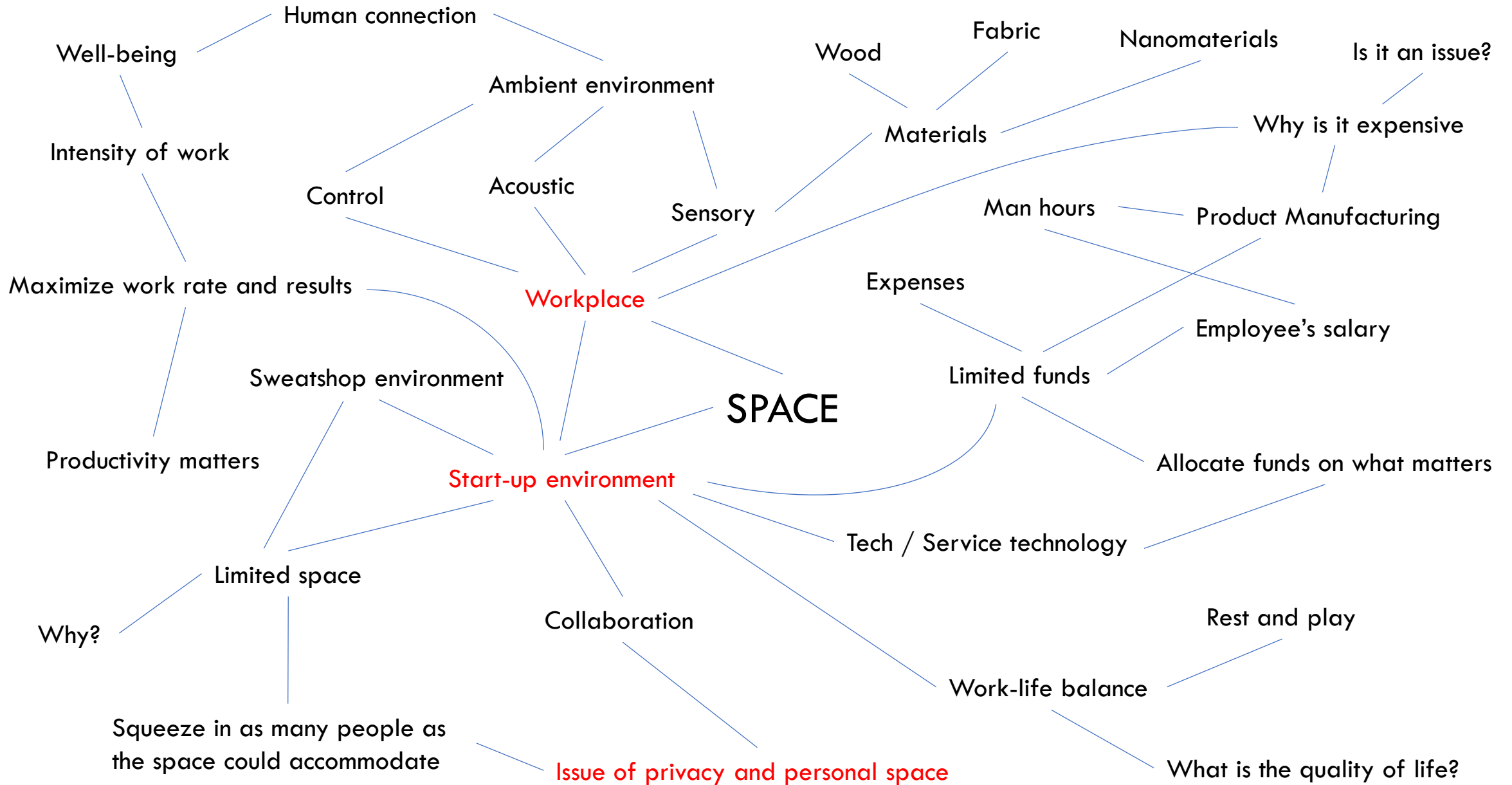
# Out of curiosity...

Nowadays, offices are trending towards an open living environment that encourages constant collaboration, movement, freedom and co-working experiences.

How does it impact **personal space** and **privacy** in the workplace?

Do they matter?





How can we enhance personal space and privacy in a dynamic and open environment within the tech startup industry?

Let's dive in deeper to  
understand more about startups...

# The Startup Movement

“It is not just about ideas; it is about making ideas happen.”

- Scott Branson



# What about Startup?

This is the domain of the 21<sup>st</sup> century. Startup has redefined what it means to be a lean, collaborative, and agile organization, where founders constantly battling and figuring out ways to expand as few resources as possible to gain maximum impact on what matters most – getting a product in front of consumers.





# Why Startup?!

Courtesy of technology and connectivity, the speed of which a startup grows is rapid and vastly different from how traditional companies were built in the past.



# The Problem?

Startup workplaces, often pieced together under hectic circumstances and short time frame, faces the challenges of creating high performing, adaptable work environments that enable crucial productivity for workers in navigating through unpredictable growth for the company.



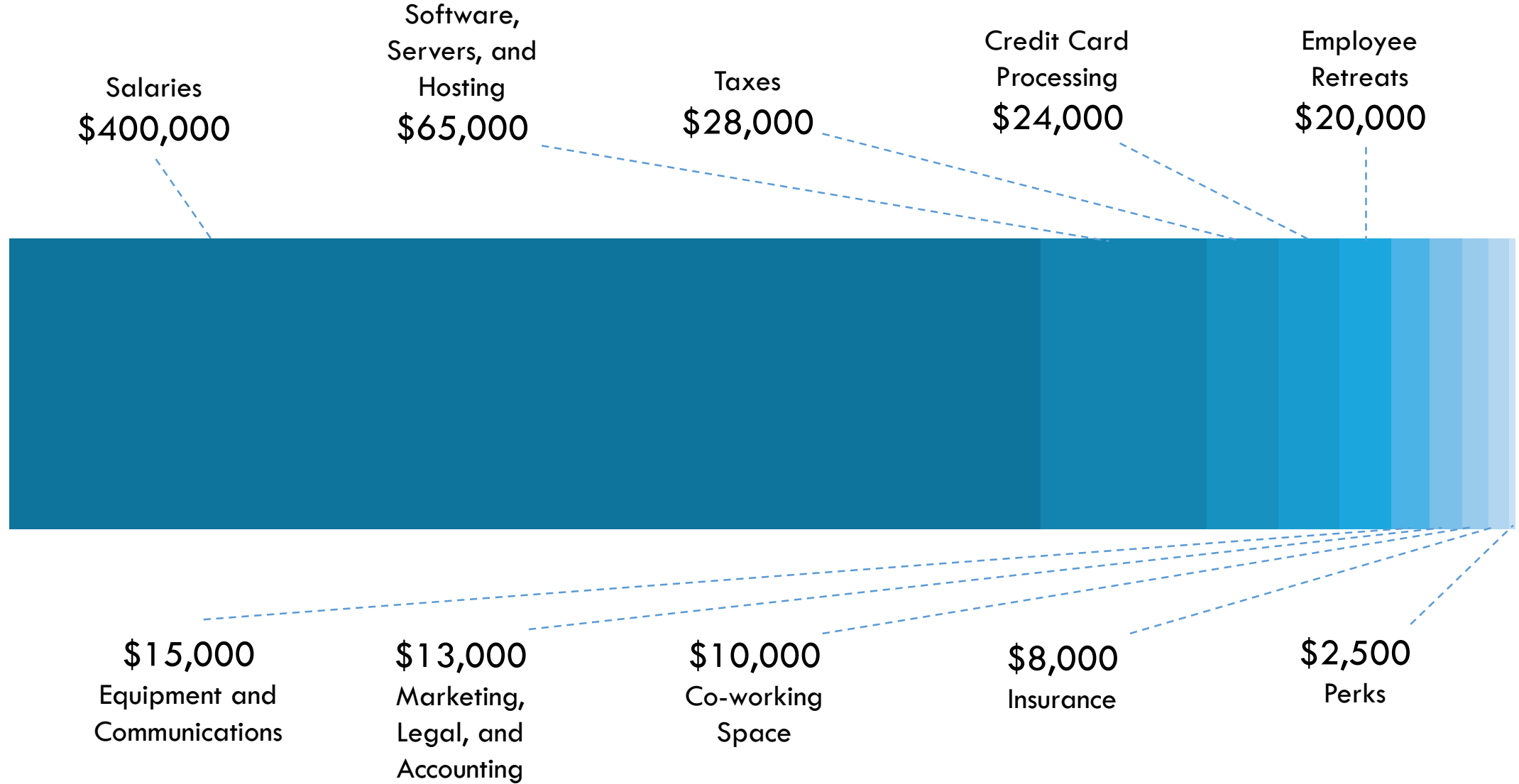
What causes the problem?





Startups' funding resources have significant impact on the size of office spaces one could acquire.

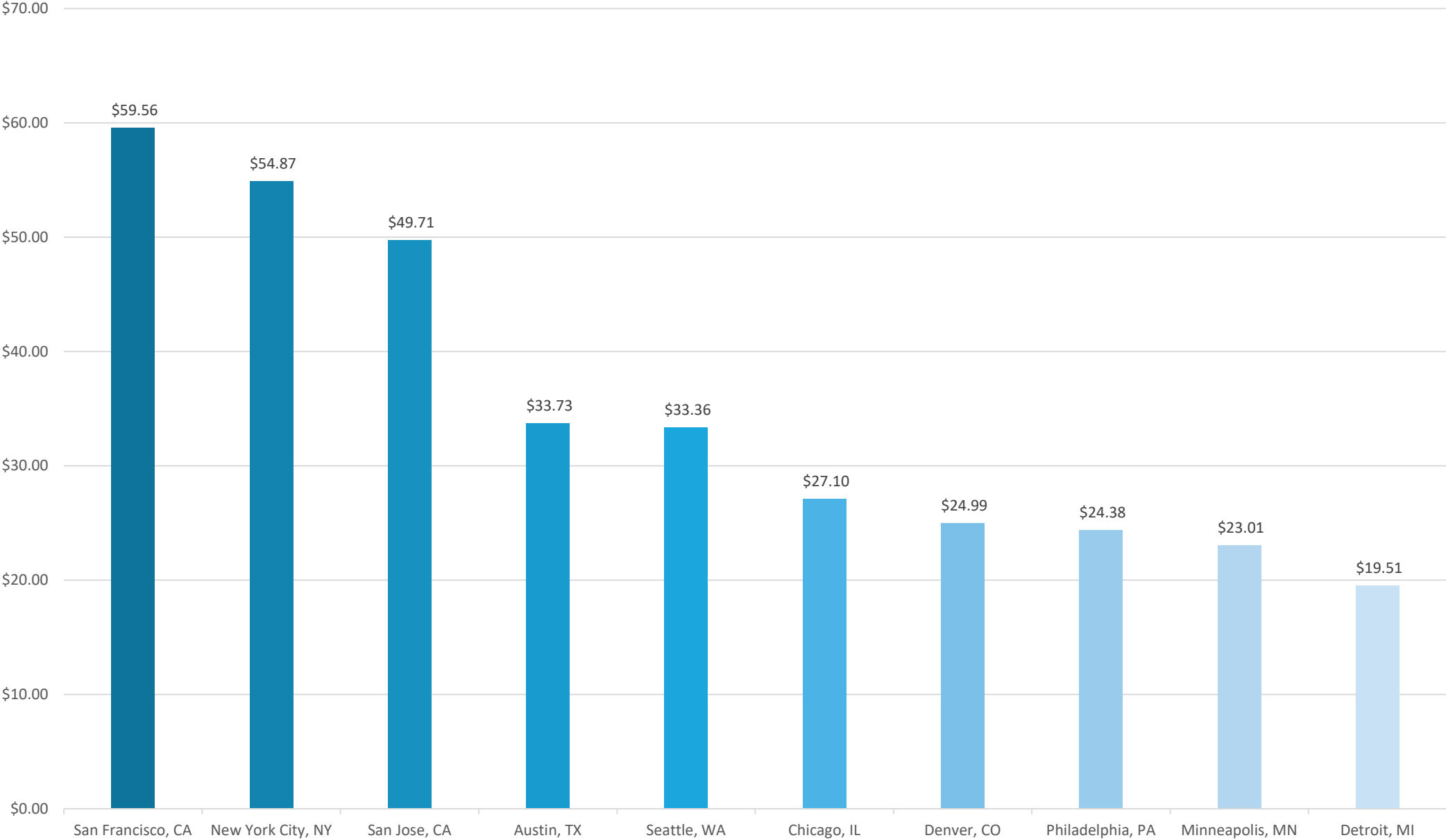
Let's look at startup's  
monthly expenditure...



(Finkle, 2016)

What about the prices  
of office space...

# Commercial Office Price Per Square Feet

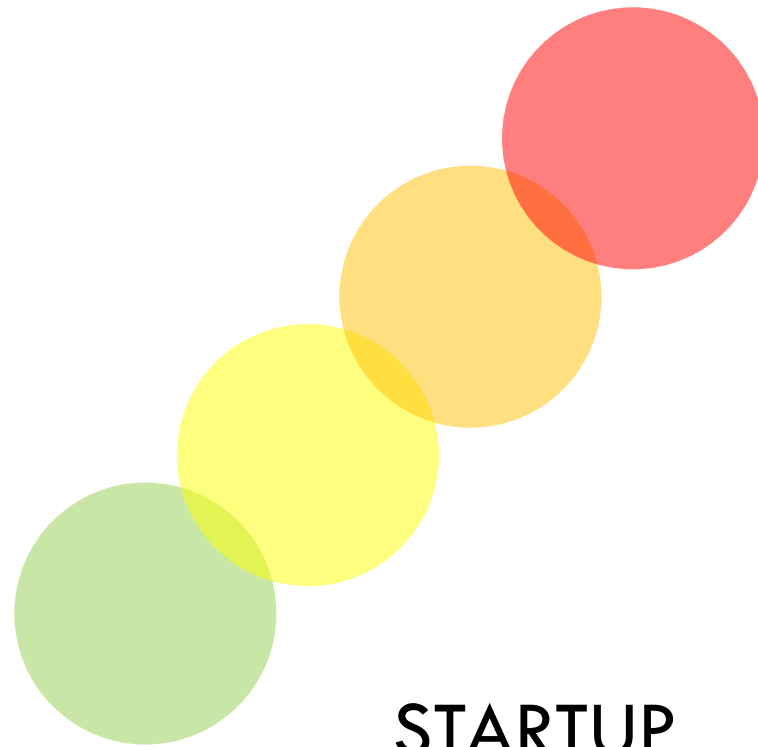


# About that space...

San Francisco and New York City are some of the prime spots for startups to put a foothold in. They are attractive locations and deemed as one of the best technology hub where entrepreneurs could spearhead their business given the connections and resources the cities provide.

However, being in crowded cities means space comes at a premium. So in truth, open offices are about saving money, pricey real estate means that every square foot is a dollar sign. Employers' desperation for lower real estate costs and increasing need of innovation emphasize collaboration in open office environment, thus sacrificing the fundamental need for personal space and privacy.

Let's understand how space  
evolves for Startups...



STARTUP  
STAGES



# The Garage

Starts with a few key founders with self or seed funding to transform an idea into a product. At this stage, it is essential to own as little as possible with the mindset that if it works, it flies.

The physical environment is not a major consideration at this point. A couple of desk, solid internet access and a temporary place to call home base will make do.

(Knoll, 2013)





# The Early Band

With further funding and a product that consumers are responding to, results in a growth of a larger team of 29 people or less to help fuel the company mission. With more people, business faces spatial challenges as it squeezes and makes do.

At this stage, key members need to plan for flexibility with modular furniture in account to types of spaces required for the team to perform certain tasks. Given its freedom, the space can become a cultural marker for a growing company in expressing an early cultural identity as well as fostering a “second home” feel.

(Knoll, 2013)





# The Full Squad

The company rockets forward with product expansion and sizable investment with their own customer base and investors, and earned resources earmarked to scale the company to new heights, which means employing more people approximately on the scale of 30 to 75 employees.

This phase often experiences the most physical environment pain points, transformation from a single-room mentality to a company with burgeoning departments for separate disciplines and are likely to involve designers or architects on a full build to ensure the optimal functional mix of spaces.

(Knoll, 2013)



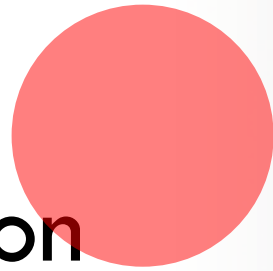


# Great Expansion

Subsequent fundraising rounds, wider consumer popularity and increasing revenue help emerging companies towards profitability, geographic expansion and potentially even a public offering.

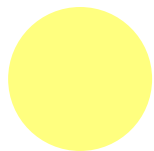
The company is looking to scale beyond 75 employees. Hence, the space needs to work seamlessly and put-together with major effort required to maintain the culture of the company.

(Knoll, 2013)

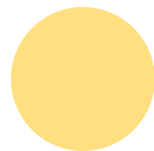




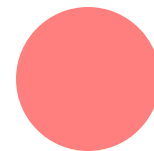
The Garage




The Early Band



The Full Squad




Great Expansion




The Garage



**The Early Band**



The Full Squad



Great Expansion

AREA OF FOCUS

# Early Band Startup Phase Insights

Zero sense of personal space and privacy to do focus work.

Startups at this phase often face spatial challenges when the team grows as it squeezes and makes do.

Team members navigate an intense fast-paced flow of work. Everyone is involved and collaborates to achieve targeted goals.

The space they work in can often be too confined or too open depending on the size of people.

Workspace feels fixed and rigid, and it wouldn't adapt when work changes.

The furniture employed in this phase consists of just rows of tables along with chairs and nothing else.

Most startups are growing so quickly, the last thing to consider is erecting a permanent wall.

User research



# Interviews

20 participants

Company size ranging from 25 to 75 people



User Experience Strategist



Operation Manager



Design Engineer



Research Designer



System Engineer



Developer



Designer



IT Risk Assurance



Data Analyst



Management Executive



Underwriter



Recruitment Consultant




Customer Service Gatekeeper



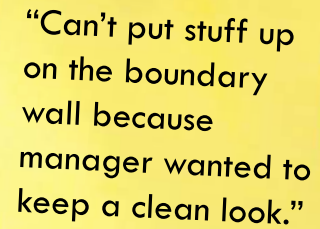





# Workspace



"Several long table that fit up to 6 people on 1 table."



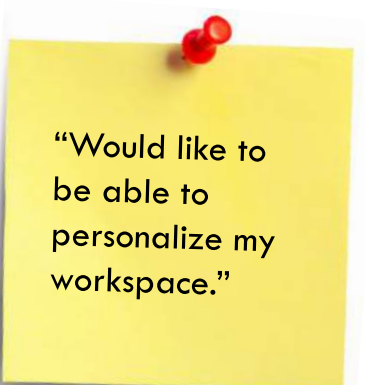
"Can't put stuff up on the boundary wall because manager wanted to keep a clean look."




"Desk is bombarded with screens, laptops, electronics and no space to sketch."




"My workspace is cramped and no compartments."



"Would like to be able to personalize my workspace."




"There's no space to place stuff on the table."

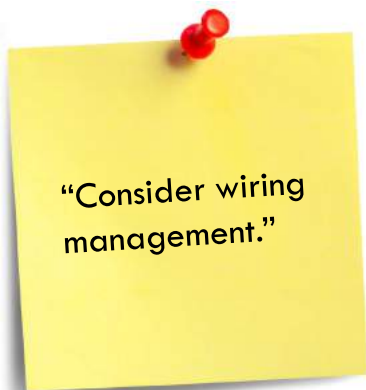


"Workspace is not customizable."


# Organizer



“When something  
is out of sight, you  
don’t remember  
it’s there.”

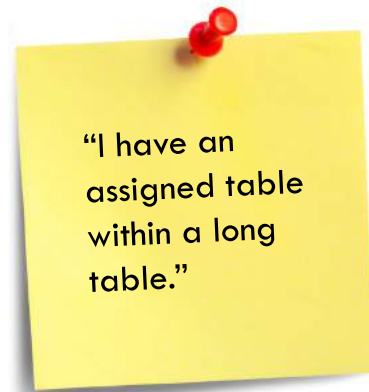


“Consider wiring  
management.”



“Organization is  
important.”

# Table Assignment




# Territory






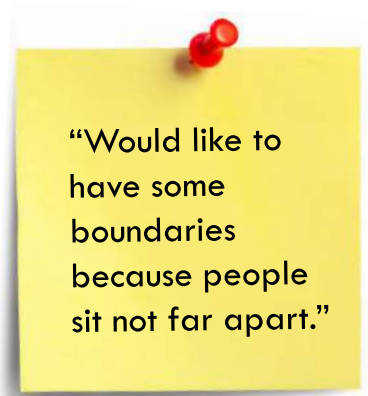
# Boundaries



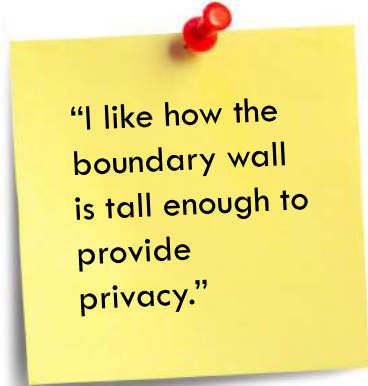
"Having high walls discourage communication dynamic."




"Height of partition is a determinant factor for communication."



"Would like to have some boundaries because people sit not far apart."



"I like how the boundary wall is tall enough to provide privacy."




"A small partition to block my screen for privacy."


# Communication



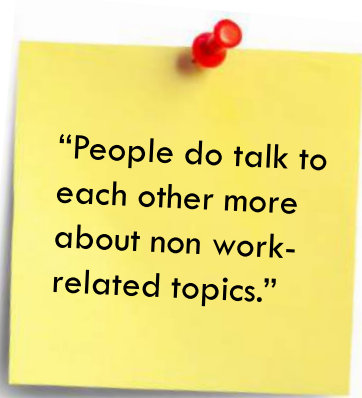
"Good communication ensures great results."




"We do have tele-meeting at our own desk."




"Communication can be difficult in a closed office space."



"People do talk to each other more about non work-related topics."



"Being in open spaces help increases conversation."




"Open space ensures effective communication."

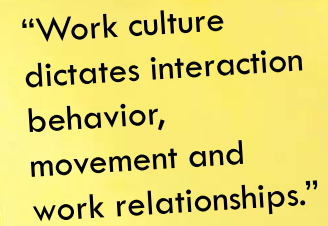


"Move a lot to deal with different departments on different floors."


# Culture



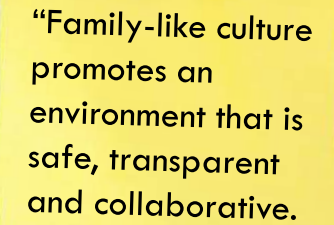
"Love the openness and the culture influence how the space is designed."



"Work culture dictates interaction behavior, movement and work relationships."

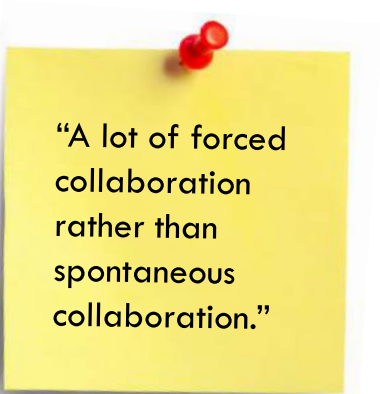


"It is important to create a culture that promotes team dynamic."

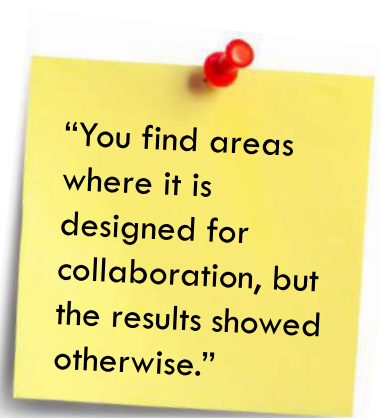


"Family-like culture promotes an environment that is safe, transparent and collaborative."


# Collaboration




"A lot of forced collaboration rather than spontaneous collaboration."



"You find areas where it is designed for collaboration, but the results showed otherwise."



"Collaboration efforts depend on formality."

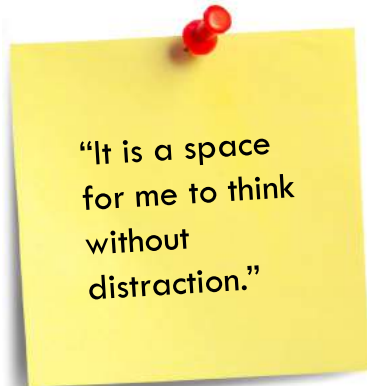


"Balancing openness with ownership."

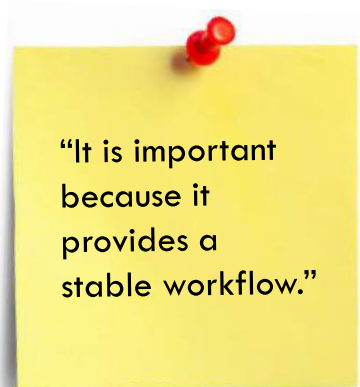
# Personal Space



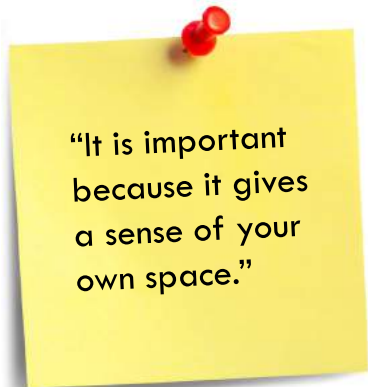
"It is not important; the key here is being mobile."



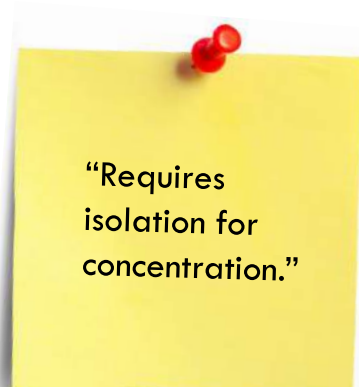
"It is a space for me to think without distraction."




"It is important because it provides a stable workflow."



"It is important because it gives a sense of your own space."



"Requires isolation for concentration."



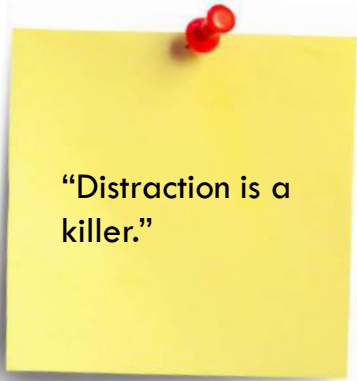
"Sometimes I want a moment for myself."



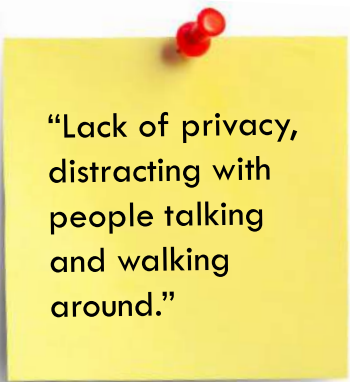
# Distractions



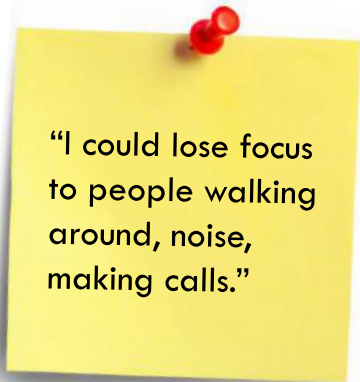
"Open spaces introduce distractions."




"Distraction is a killer."



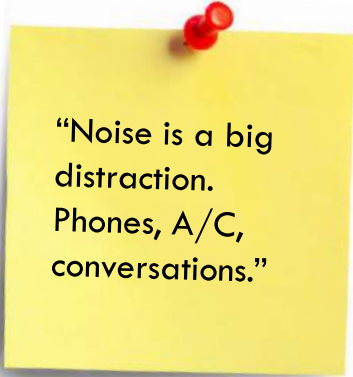
"Lack of privacy, distracting with people talking and walking around."



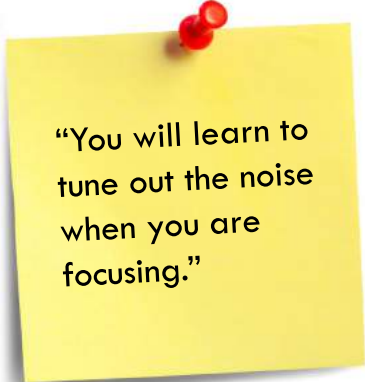
"I could lose focus to people walking around, noise, making calls."




"Speaker phone can be loud and obnoxious."



"Noise is a big distraction. Phones, A/C, conversations."




"You will learn to tune out the noise when you are focusing."

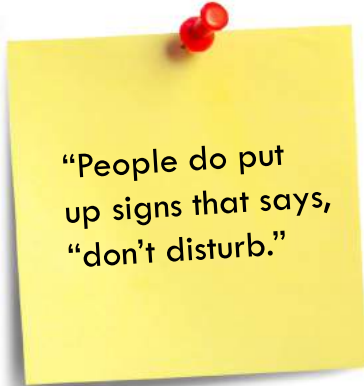


"Distractions are my enemy."

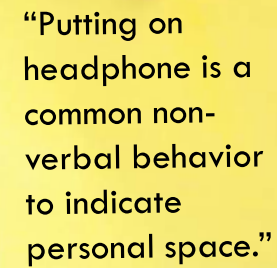
# Behavior




"People are respectful of your space."



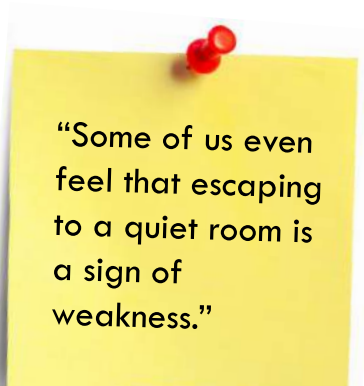
"People do put up signs that says, 'don't disturb.'"




"Putting on headphone is a common non-verbal behavior to indicate personal space."



"Some of us don't feel comfortable leaving the team to go off on our own."



"Some of us even feel that escaping to a quiet room is a sign of weakness."



"It can feel as if we are not pulling our weight if we are not present."

# Control

"People can see what you are doing."

"Do not like people creeping up from behind."

"Feels exposed without a back wall."


"Employees who feel watched take fewer risks and innovate less."

"Having control is important."


"Some people place a mirror on their desk to see their back."

"A need to control over my environment."

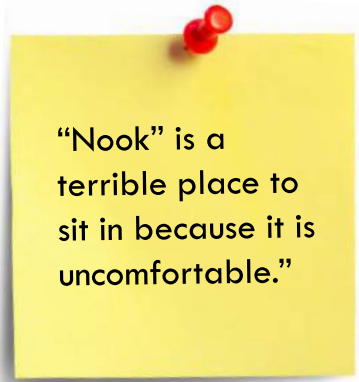
# Environment




"I work at the library for change of environment."



"I work a lot at production studio and meeting room."




"Nook" is a terrible place to sit in because it is uncomfortable."




"Office design should focus on Activity Based Working environment."

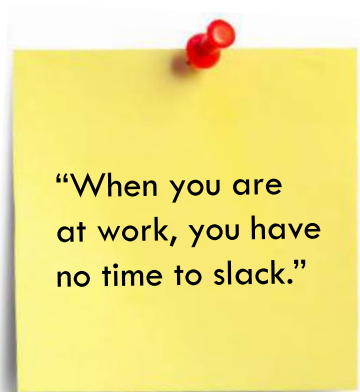
# Productivity



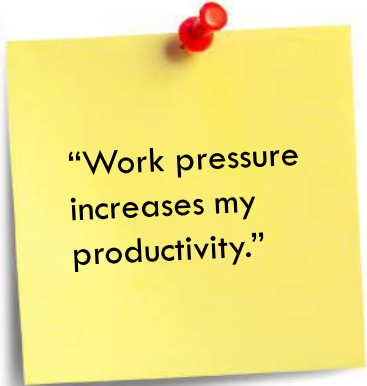
"My well-being affects my productivity."



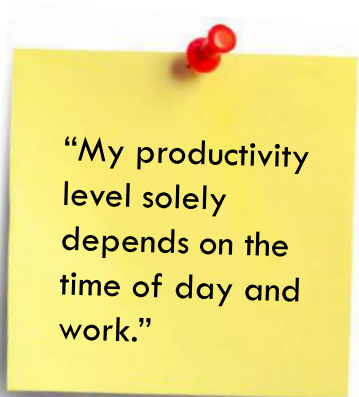
"Open spaces create a positive pressure."




"When you are at work, you have no time to slack."



"Work pressure increases my productivity."



"My productivity level solely depends on the time of day and work."



"With the lack of privacy, people are concerned with self image."



# Needs

"We learn to adapt to our environment conditions."

"Different people thrive in different conditions."

"Flexibility is key. Needs change throughout the day."

"Provide choices."

"Different people have different feel of temperature."

"Space for inspiration, colors, materials to meet emotional needs."

"Bright, large space with natural lights and some views."

"Mobility is important."

# User Insights

Work culture dictates interaction, behavior, movement and work relationships. The arrangement of furniture is highly dependent on the culture of the workplace.

An area for collaborative work, and an area for focus work.

Having the freedom to move around and given choices of places to work.

Having a dedicated power source at personal workstation rather than sharing.

The first thing that comes to mind when choosing a place to work is the availability of power source.

Sharing a workspace on one long table with other people can feel cramped and no sense of personal space.

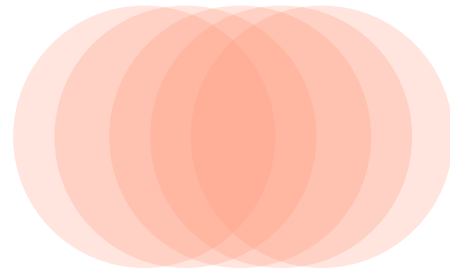
Height of partition is a determinant factor for communication, it also helps with avoiding visual distraction and provides privacy.

Everyday objects such as books and plants are used to mark territory and to discourage conversations.

Having control without feeling exposed.

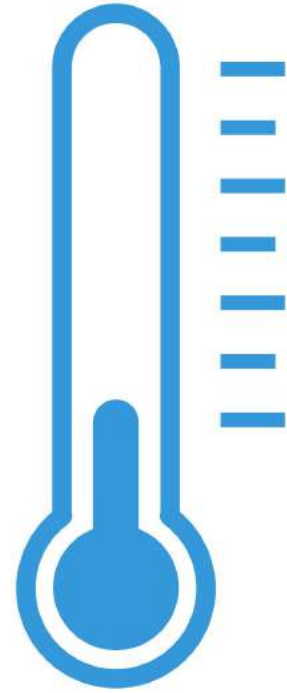
Putting on headphone is a common non-verbal behavior to indicate 'do not disturb'!

Personal and working needs changes over time.



WORKSPACE IMPACT

# Sensory Influence







1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 K







# Collaboration and Sociability



# Intended Collaboration Space

Referred to as Brainstorm room, Breakout space or Meeting space.

A space where a group of people come together and create meaningful solution.

Such area encourage people to do their thinking in the presence of other people, rather than alone.





# Strategic thinking space

Strategic thinking and problem solving through brainstorming.







## Tactical execution space

Creating and managing deadlines intended for certain tasks to be delivered



# Unintended Collaboration Space

An open plan that encourages accidental interactions, usually situated in areas like the cafeteria or lounge room, where it encourages employees to bump into coworkers from different teams within the company.

Opportunities for more restful activities promotes creativity and insights for innovation.





## Social space

A space for socializing and informal interaction. Such impromptu space provides an opportunity for creating a community with like-minded individuals shaped through conversations and idea sharing.

# Productivity and Performance



# Define productivity...

According to James Clear, author of Atomic Habits, productivity is a **measure of efficiency** of a person completing a task.

It is not about the completion of the quantity aspect of work, rather, it is about the **quality** of getting important work done in a **consistent** manner.

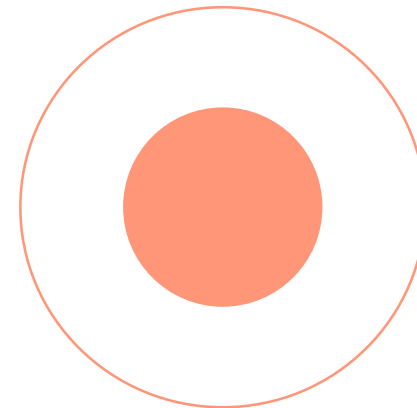
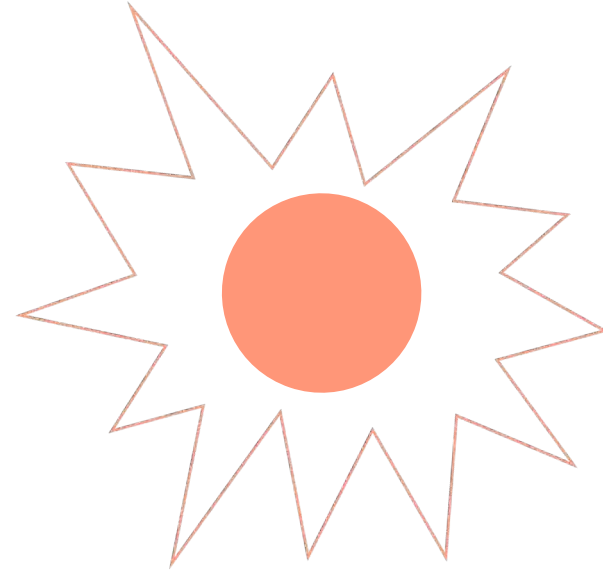


# The external...

Productivity can be subjective towards an individual's environment.

People **work differently at a different rate.**

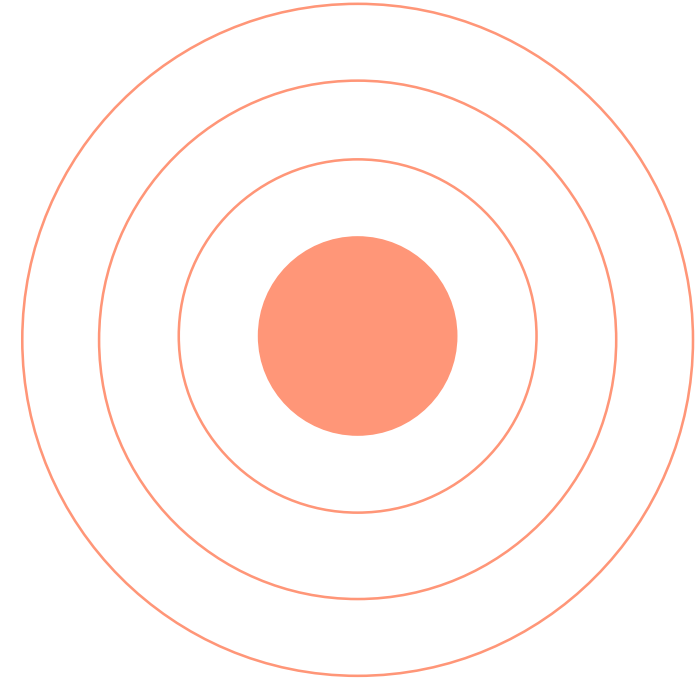
Some people feed off from the energy of the activities happening in cafes or public spaces to help them perform, but some people prefer quietness and would find a more isolated places to work efficiently without disruption.



# The internal...

On the other hand, people learn to **tune out** of their environment when they are concentrating, that means blocking out all distractions to focus.

The key here is **adaptation**, humans adapt in different conditions and environment in order to perform and produce results.



# Flow, the psychology of optimal experience

Mihaly Csikszentmihalyi

Flow is a mental state of balance, where people are **wholly focused** in a task, creating a surrounding mind that is **internally motivated**, **fully involved**, **energized**, and often **lose sense of time**; its outcomes are highly productive and creative.

Sometimes, it is not just  
about the environment...



A top-down view of a desk. In the center is a silver laptop with a landscape image on its screen. To the left of the laptop is a tray with four sticky notes in yellow, pink, green, and blue. Further left is a small potted plant and a holder with pens. Below the laptop is a black notebook with two pens resting on it. To the right of the laptop is a messy area with a red folder, a fidget spinner, keys, a bowl of snacks, and various papers including a color calibration chart and a sketchbook with a cup of coffee on it. A blue semi-transparent box with white text is in the top right, and another similar box is in the bottom left.

Are messy desks a sign of creativity?

Are clean desks a sign of efficiency?

# What is on your desk?

The items on your table has a lot to say about who you are. Post-it, papers, memorabilia, etc., are items that has perceived values only you could understand. These are the things that you draw energy and inspiration from to help with your thinking process and productivity.

# Information overload

The introduction of open plan office as well as the usage of multi-screens have led to an epidemic of information overload.

Most people are **overwhelmed** by the huge increases in the amount of information needed to process daily, and a significant increase in the digital distractions that comes in the way.

This phenomenon **significantly reduce productivity** in the workplace.

# Do I still have your attention?

A study by Microsoft states that the average **individual's attention span** is **10 seconds**, considering the affects on the brain of our increasingly digitalized lifestyle.

Understanding the issue at hand, people usually off load information into their environments using Post-it or notebooks to support retrieval, then reabsorb new information into their memory. The cycle repeats again to avoid missing out on important details.

# Distractions

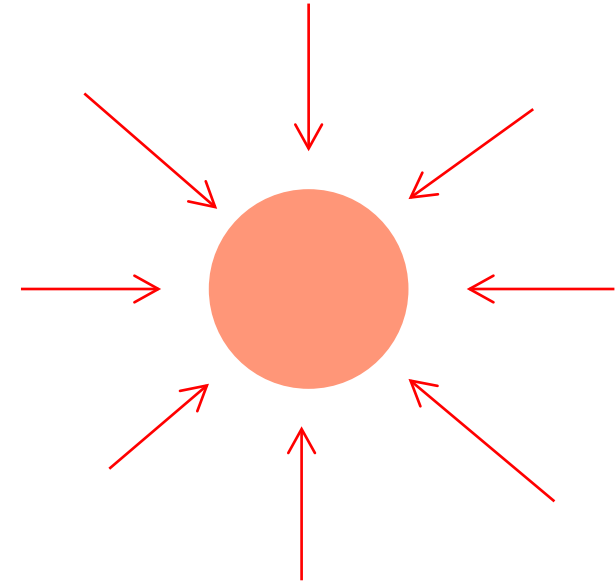
The enemy of focus.



# External distractions

People walking, visual clutter on a worksurface, overheard conversations, email notifications or ringing phones constantly bombard workers when they are 'in the zone'.

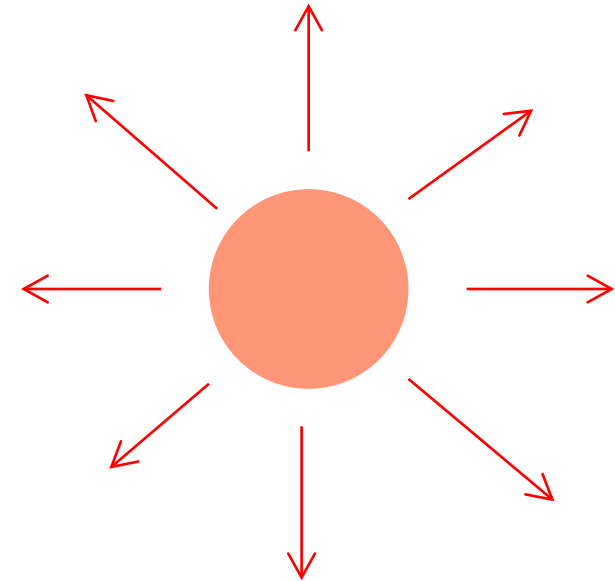
However, some external inputs like 'white noise' may help people focus.



# Internal distractions

Internal distractions are usually personal concerns or thoughts not related to the current task, such as making mental notes of the things to complete that day or wondering what to eat for lunch.

Multitasking is another form of distraction since attention must be divided among the multiple tasks.



# The consequences of distraction

Office workers are interrupted as often as every three minutes by digital and human distractions.

On average, **28% of their productive time** are lost due to interruptions.<sup>1</sup>

Once an interruption occurs, it takes time to resume a task, on average, **25 minutes** for workers to get back to their original task once interrupted.<sup>2</sup>

1. (Spira and Feintuch, 2005)

2. (Mark, Gonzalez, and Harris, 2005)

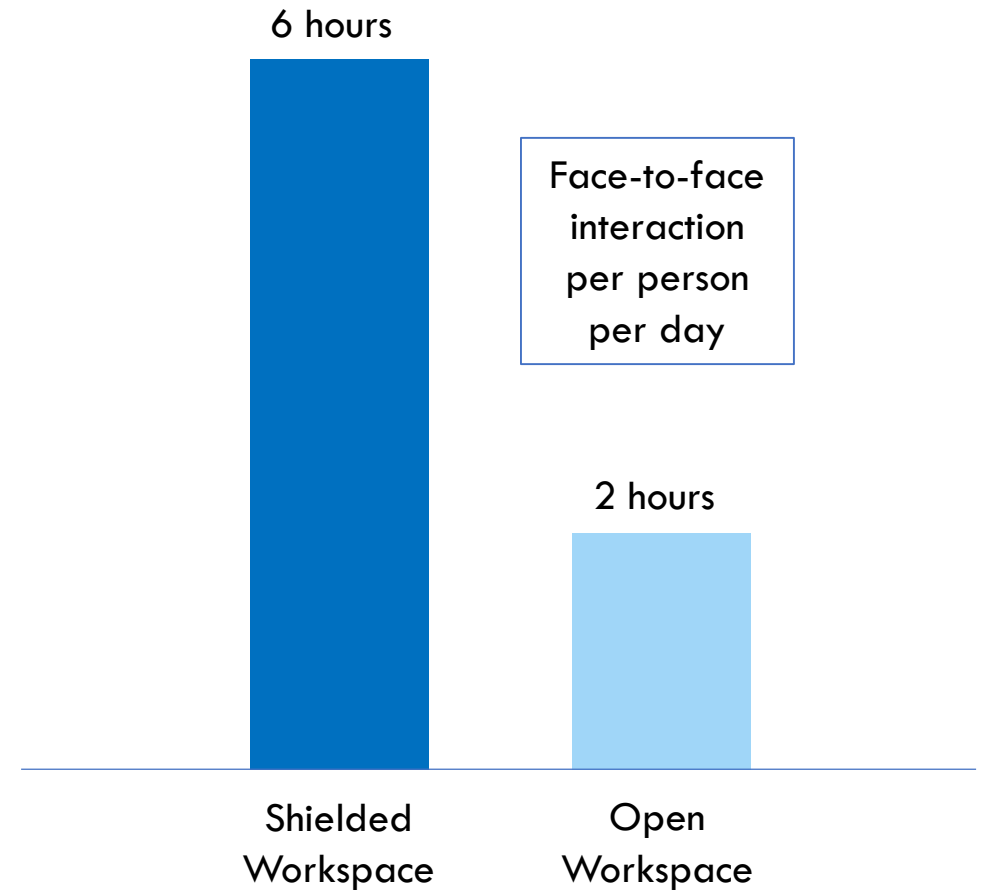
# Privacy and Interaction

# The impact of the open workspace on human collaboration

(Bernstein and Turban, 2018)

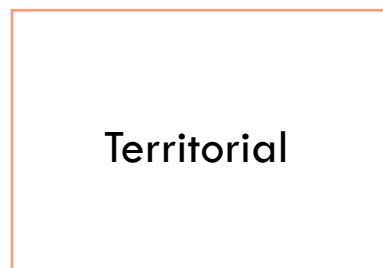
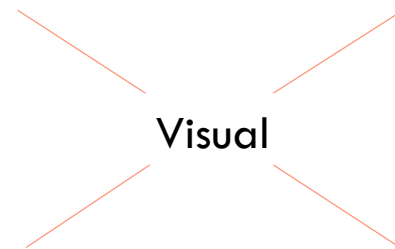
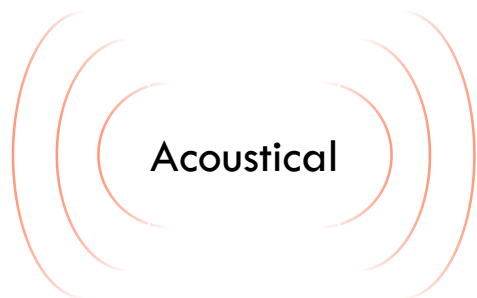
Bernstein and Turban argue that open office environments triggers a natural human behavior to socially withdraw from colleagues and instead chooses to interact more over emails and text messaging.

This debunk the belief of the true intention of open workspace, that face to face interaction significantly decreased at approximately 70%, with an associated increase in electronic interaction.





## Four types of privacy in physical settings



Insights on privacy...

# Being invisible or unknown

Examples:

Going to work at a public places where you're unknown.

Engaging in online discussions using an avatar or anonymous handle.



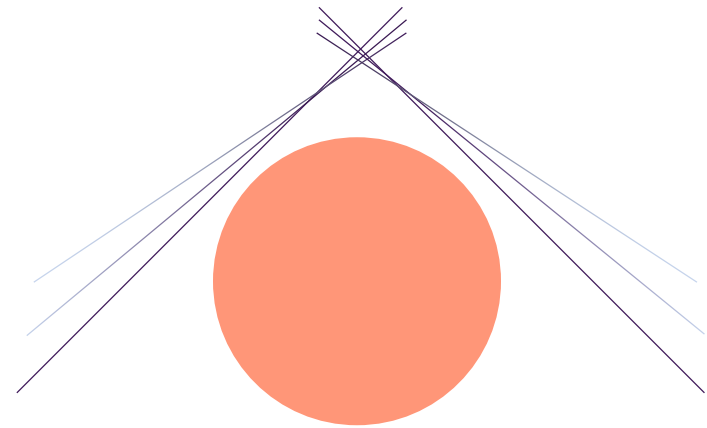
# Intentional shielding and self protection

## Examples:

Wearing headphones to block out audio distractions.

Sitting with your back against a wall.

Hiding your computer screen.



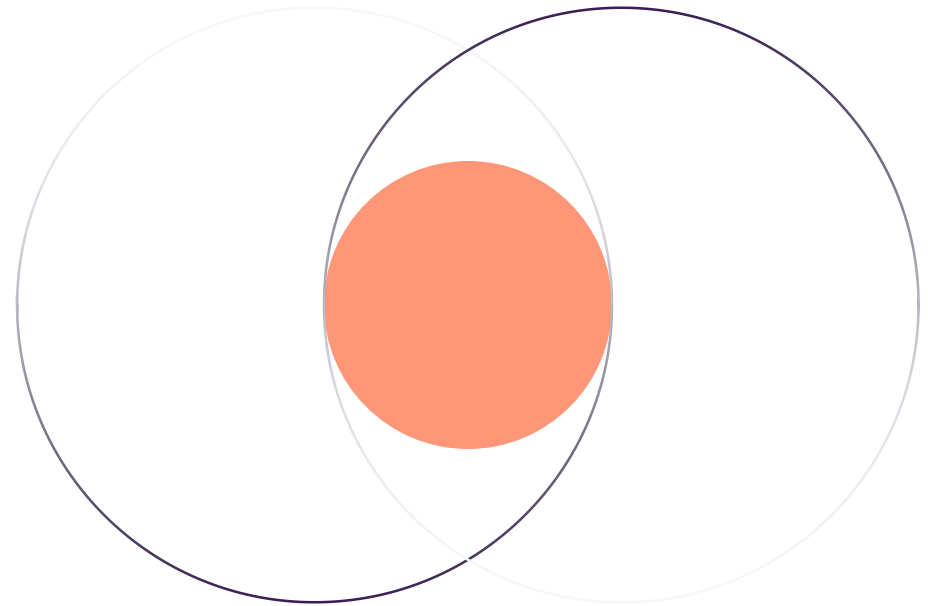


# Solitude

Examples:

Going outside.

Sitting in the farthest empty corner of a large room.



(Congdon, Flynn and Redman, 2014)

# Choosing what others see

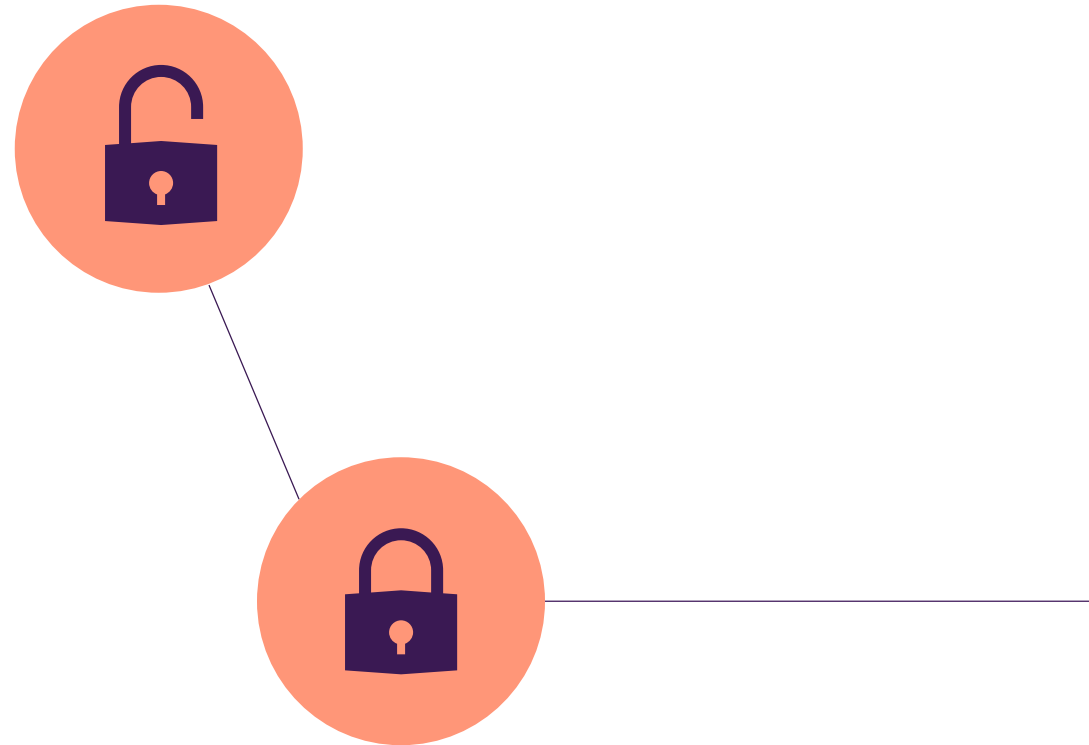
## Examples:

Choosing which personal items and personal information to display in a workstation.

Our innermost thoughts and feelings and our own quirky behaviors.

People represent themselves differently to different people.

(Congdon, Flynn and Redman, 2014)



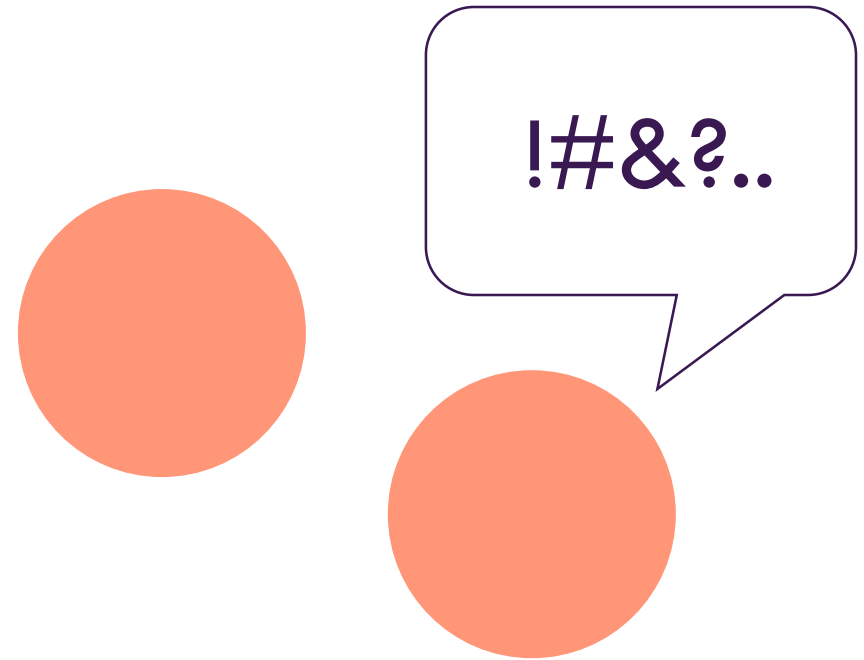
# Confidential Sharing

Examples:

Discussing a personal situation with a colleague.

Being in a performance review with your manager.

Measure of trust.



(Congdon, Flynn and Redman, 2014)

# But...

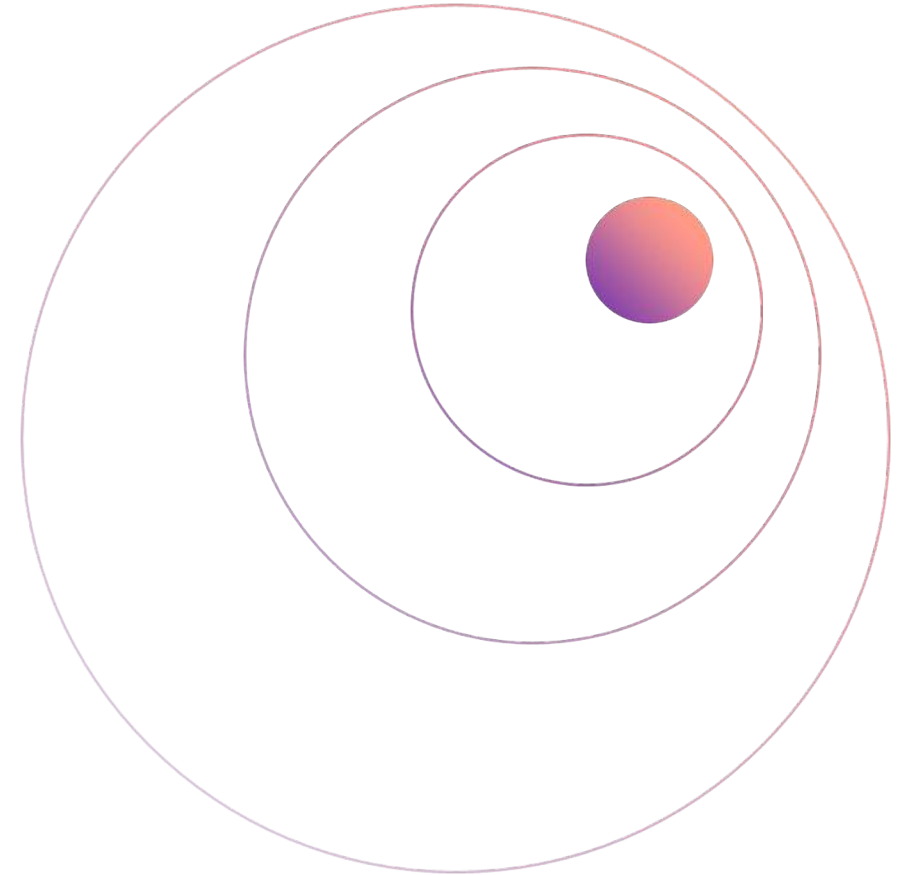
Many workplaces today particularly in the realm of startups are not prioritizing on delivering personal space and privacy as a necessity. Too much interaction in the day-to-day work creates a heavy toll on employees' wellbeing, creativity, productivity and engagement.

(Congdon, Flynn and Redman, 2014)

# Why **personal space** is important?

Many successful leaders believe that collaboration is essential to idea generation. However, when groupwork is elevated above all else, it can dampen the quality of work produced. There is a rhythm to how people collaborate. First, individuals focus alone or in pairs for idea generation, then they come together to build on those ideas to develop solid concepts, and the process repeats again. Having to cope with the intensity of how work happens today requires individuals to have private time to recharge and think. Providing that sense of personal space enriches and strengthens future collaborative activities. After all, innovation requires spaces for focus and rest.

(Congdon, Flynn and Redman, 2014)





# Workspace Impact Insights

Materials that incite warm, “second home” feel

Colors for inspiration and energy

Have a separate space for rest and work.

Openness creates positive work pressure.

Pin up to remember important details.

The ability to control one’s surrounding.

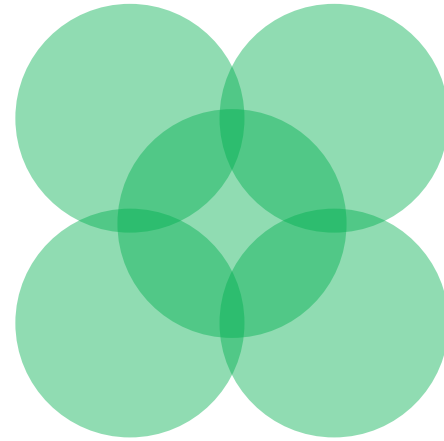
The ability to shield away from distractions

The way people seek privacy is unique from one another

Productivity level is different for everyone and it is attributed to elements like day of time, mood and the environment.

Provide freedom and choices to move around and work

Balancing openness with personal space and privacy.



**MARKET ANALYSIS**



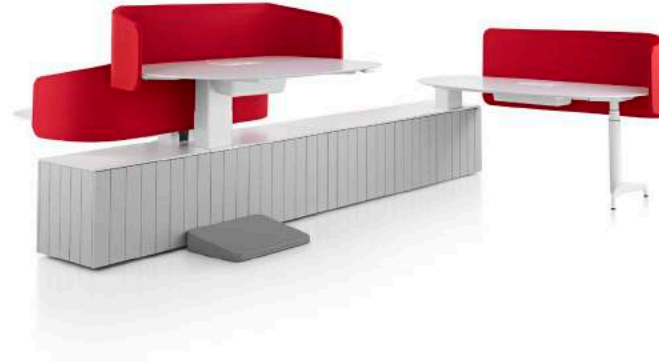


Bivi Series

Unit system

Privacy attachment is only exclusive to desk in the brand's collection.

\$5000



D-Desk Screen

Unit System

Privacy attachment is only exclusive to desk in the brand's collection.

\$1600



Pari Screen

Attachment brackets are inset from edge of screen by approximately 8"

Requires 2-1/2" of table surface for attachment.

\$645



BuzziWrap

It can be attached to almost any existing desk, with width ranging from 0.47" – 3.86"

\$1375



Personal Side Screen

Screen can be used with table surfaces up to 1-1/4" thick.

\$345



Divisio Side Screen

Clamp can accommodate 3/4" to 1-1/2"-thick worksurfaces.

Divisio side screen can be made more permanent by adding two screws through the clamp. For worksurfaces 1" thick or less

\$350



Buzzidesk Split

Clamp can accommodate 0.47" – 2.2" thick worksurfaces.

\$900





### Work Forts Desktop Privacy Panels

Mounting brackets for attachment to the underside edge of the desk or tabletop

Desk must have a lip or edge for the bracket to properly clip.

Freestanding option

\$170



### ReFocus™ Acoustic Desk Dividers

The desk dividers clamp on to the rear and side edges of most standing desks

Attachment using thumb screw clamps

Accommodates desk up to 1.3" thick

\$190



### Frosted Acrylic Clamp-on Desk Divider

Clamp fits table or desk top from 1/2" to 2-1/6" thick

Material does not dampen sound

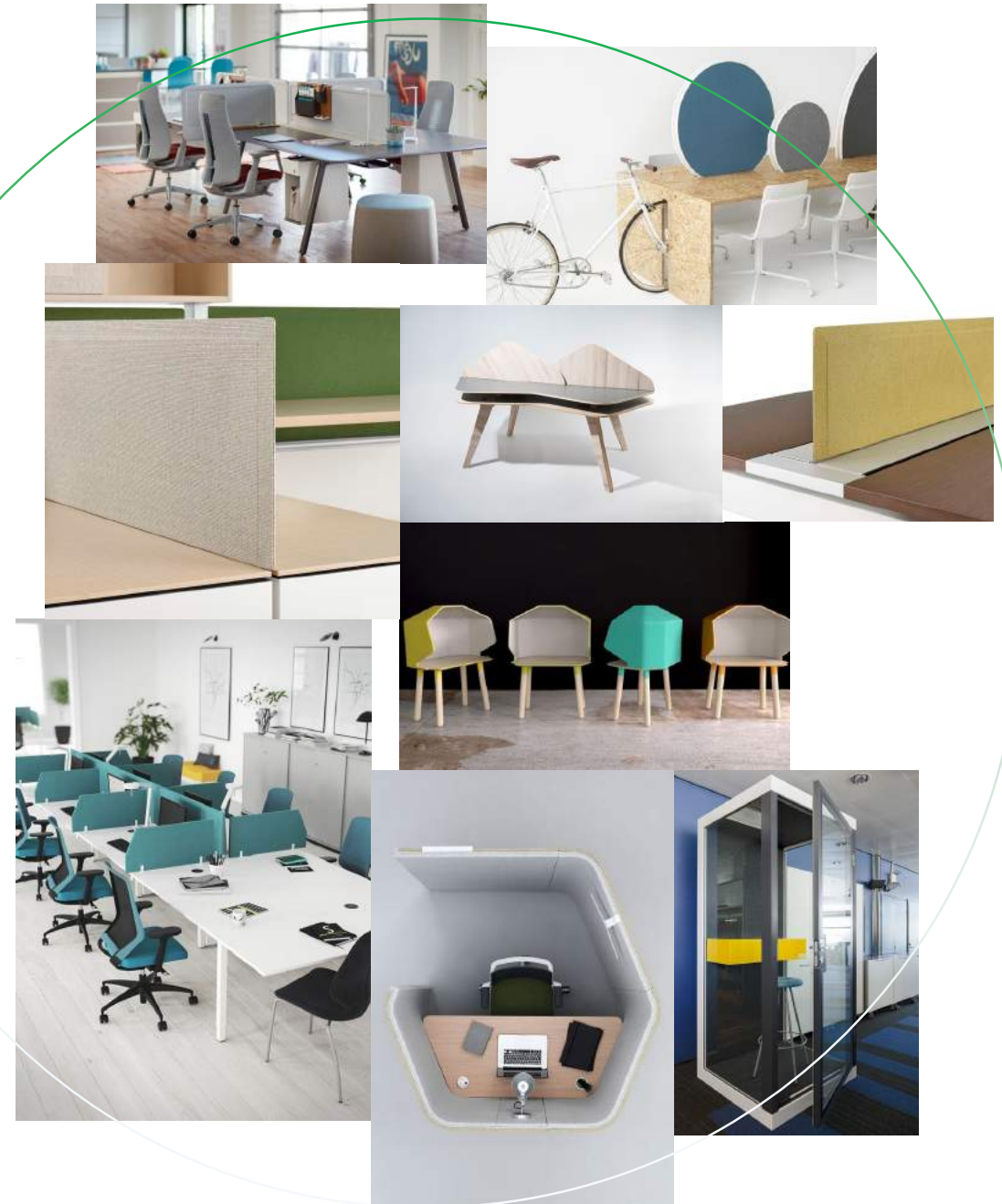
\$85

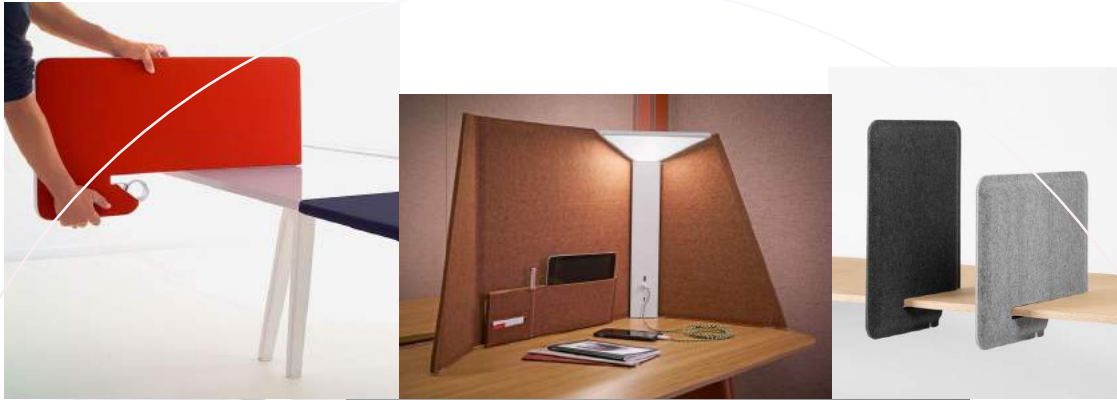
Standalone system

Expensive

Screens can only be attached to  
brand's only exclusive furniture system

Not adaptable





Affordable and preferred option for small space environment.

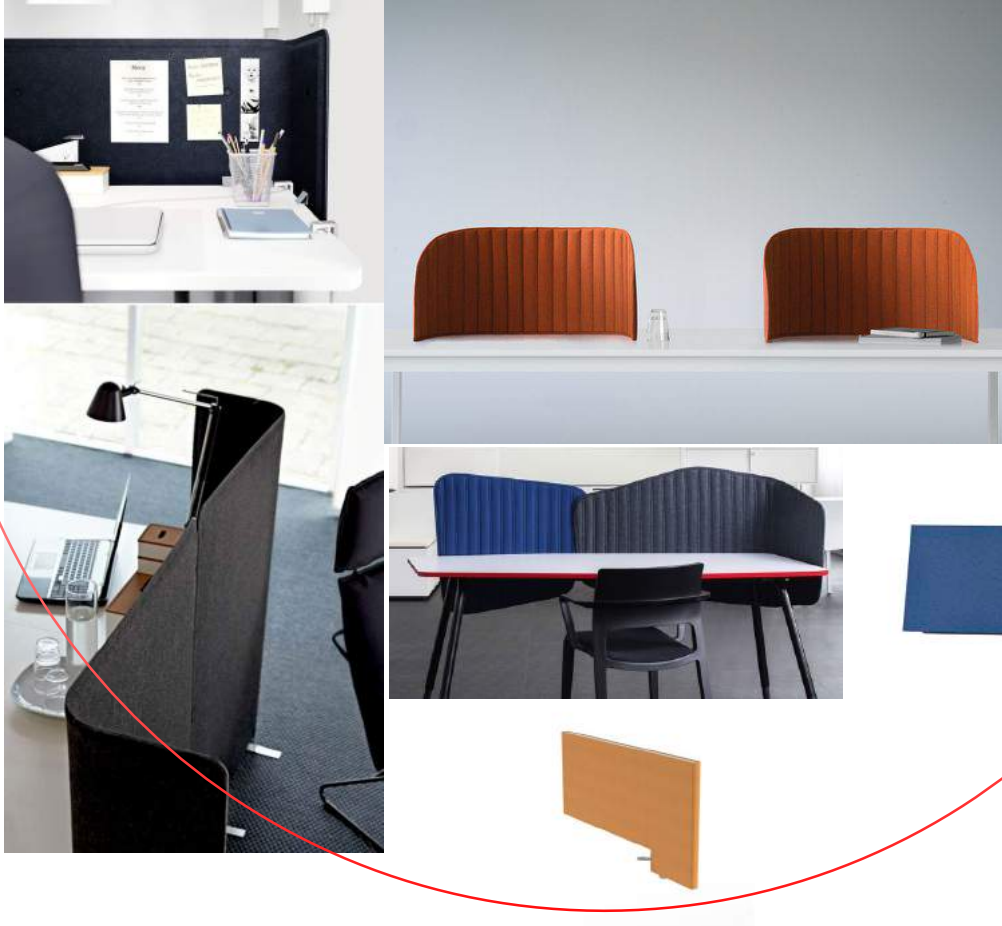
Adaptable

Some requires screws and tools to setup

Some attachments are limited to certain width dimensions of the table.

Some does not absorb sound well due to materials used.

Some does not provide proper privacy.





Attachment screens

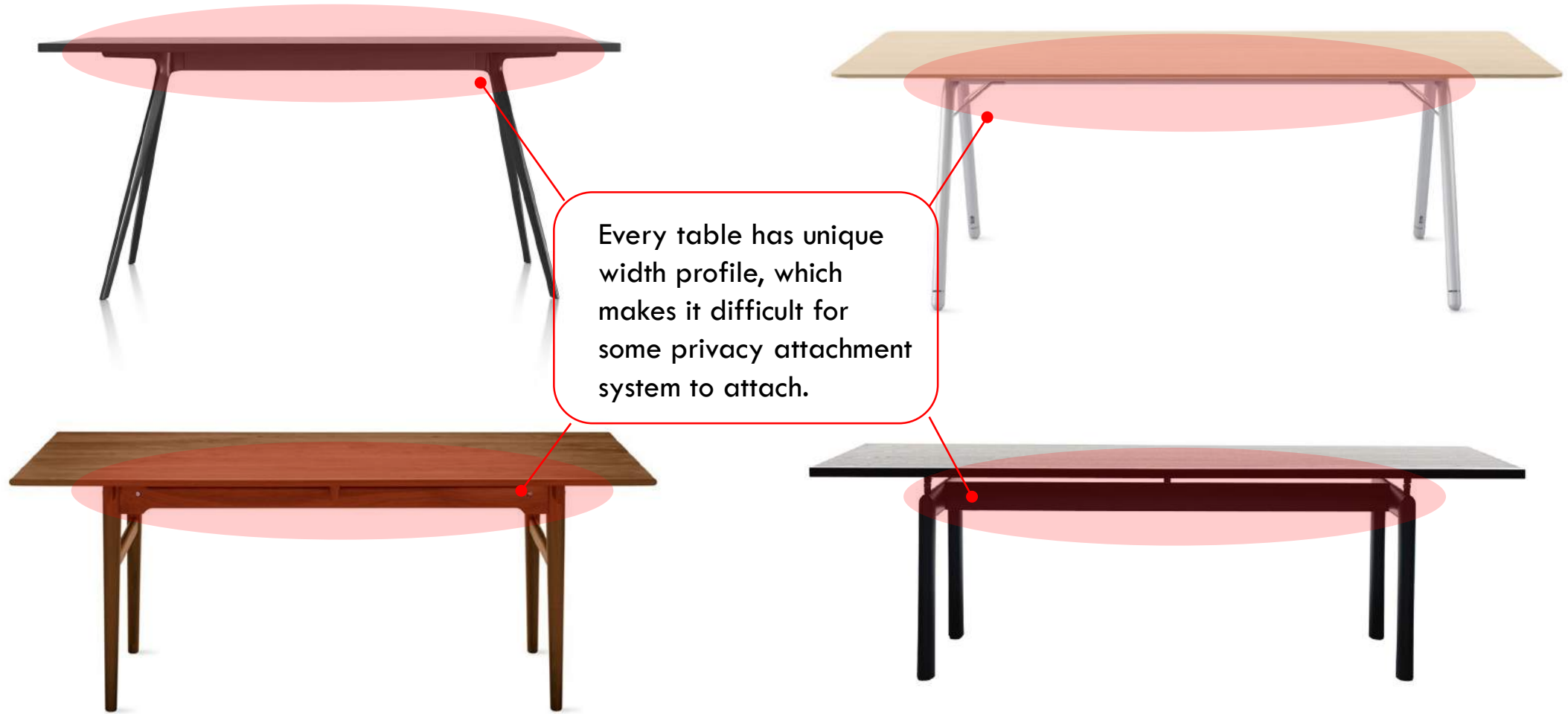
The diagram consists of two large, overlapping circles. The left circle is outlined in red and labeled 'Attachment screens'. The right circle is outlined in green and labeled 'Standalone system'. In the center, where the two circles overlap, there is a light green rounded rectangle. Inside this rectangle is a smaller, white rounded rectangle with a green border. This central area contains text describing an opportunity for a privacy screen attachment system.

An opportunity area  
for creating a full  
extension of privacy  
screen attachment  
system with a targeted  
market price of \$200.

Standalone system









The flat surface of the table is seen as an opportunity to design around for a privacy attachment system.



# Market Insights

Standalone system has an exorbitant cost, which makes it exclusive only to the product accessories it was designed for.

Standalone system is not adaptable.

Screen attachment is a potential solution for meeting temporary privacy needs

The attachment system could adapt to different work function.

The attachment prices can vary from affordable to expensive

Some attachment has limited attaching capabilities.

Table's width profile hinders certain attachment design.

Clamps and screws are common tools used for attachment.

Material consideration for noise absorption.

The aesthetic aspect of the screen can be improved.

Insights recap

## Early Band Startup Phase Insights

Zero sense of personal space and privacy to do focus work.

Startups at this phase often face spatial challenges when the team grows as it squeezes and makes do.

Team members navigate an intense fast-paced flow of work. Everyone is involved and collaborates to achieve targeted goals.

The space they work in can often be too confined or too open depending on the size of people.

Workspace feels fixed and rigid, and it wouldn't adapt when work changes.

The furniture employed in this phase consists of just rows of tables along with chairs and nothing else.

Most startups are growing so quickly, the last thing to consider is erecting a permanent wall.

## User Insights

Work culture dictates interaction, behavior, movement and work relationships. The arrangement of furniture is highly dependent on the culture of the workplace.

Having a dedicated power source at personal workstation rather than sharing.

Everyday objects such as books and plants are used to mark territory and to discourage conversations.

The first thing that comes to mind when choosing a place to work is the availability of power source.

Having control without feeling exposed.

An area for collaborative work, and an area for focus work.

Sharing a workspace on one long table with other people can feel cramped and no sense of personal space.

Putting on headphone is a common non-verbal behavior to indicate 'do not disturb'!

Having the freedom to move around and given choices of places to work.

Height of partition is a determinant factor for communication, it also helps with avoiding visual distraction and provides privacy.

Personal and working needs changes over time.

## Workspace Impact Insights

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Design a privacy attachment system that can be attached to any existing table furniture system.

# Design Criteria

Design a suite of products that grows with the company.

Design as an extension rather than a single unit.

Plan for flexibility.

Adaptable to every work environment.

Dedicated power source

Collapsible for easy storage

No tools and screws needed.

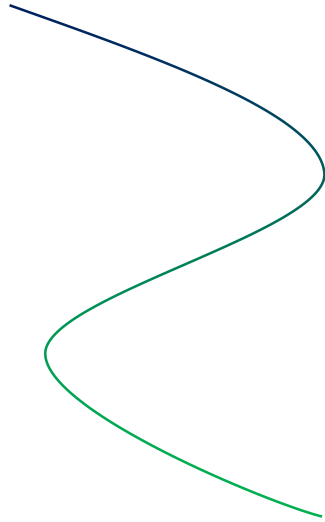
Ability to attach to any table/workstation.

Materials for noise absorption.

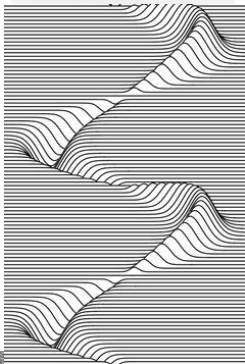
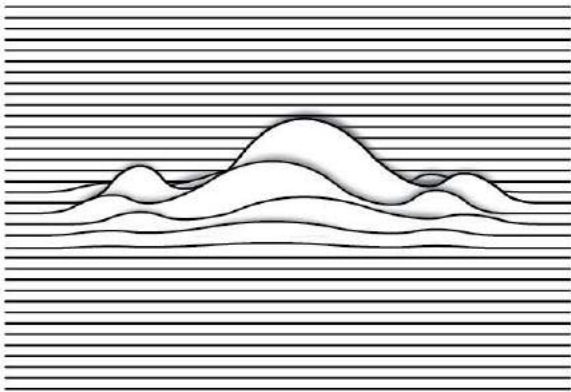
Balance and dynamic.

Affordable.

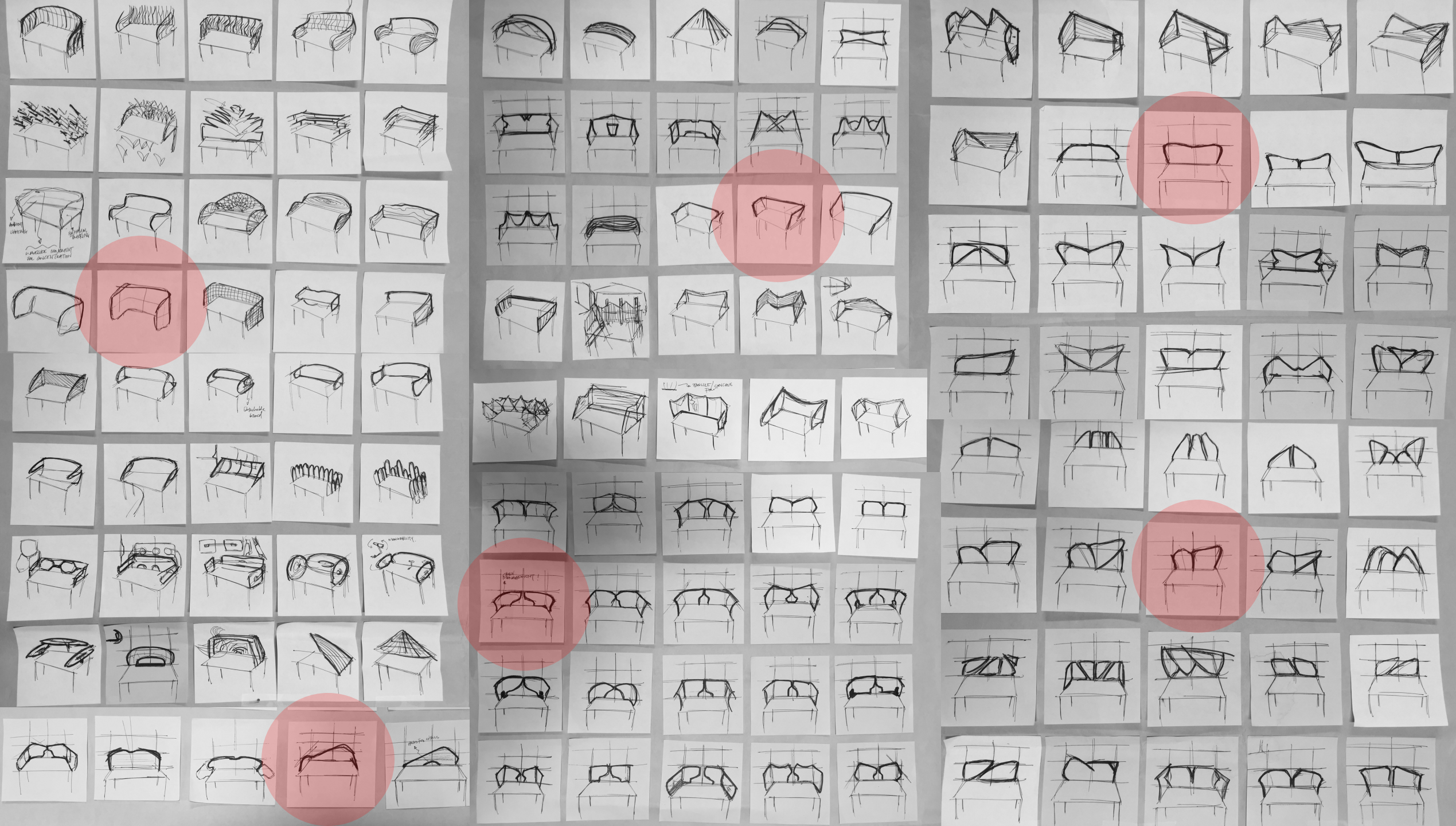
Simple and intuitive.



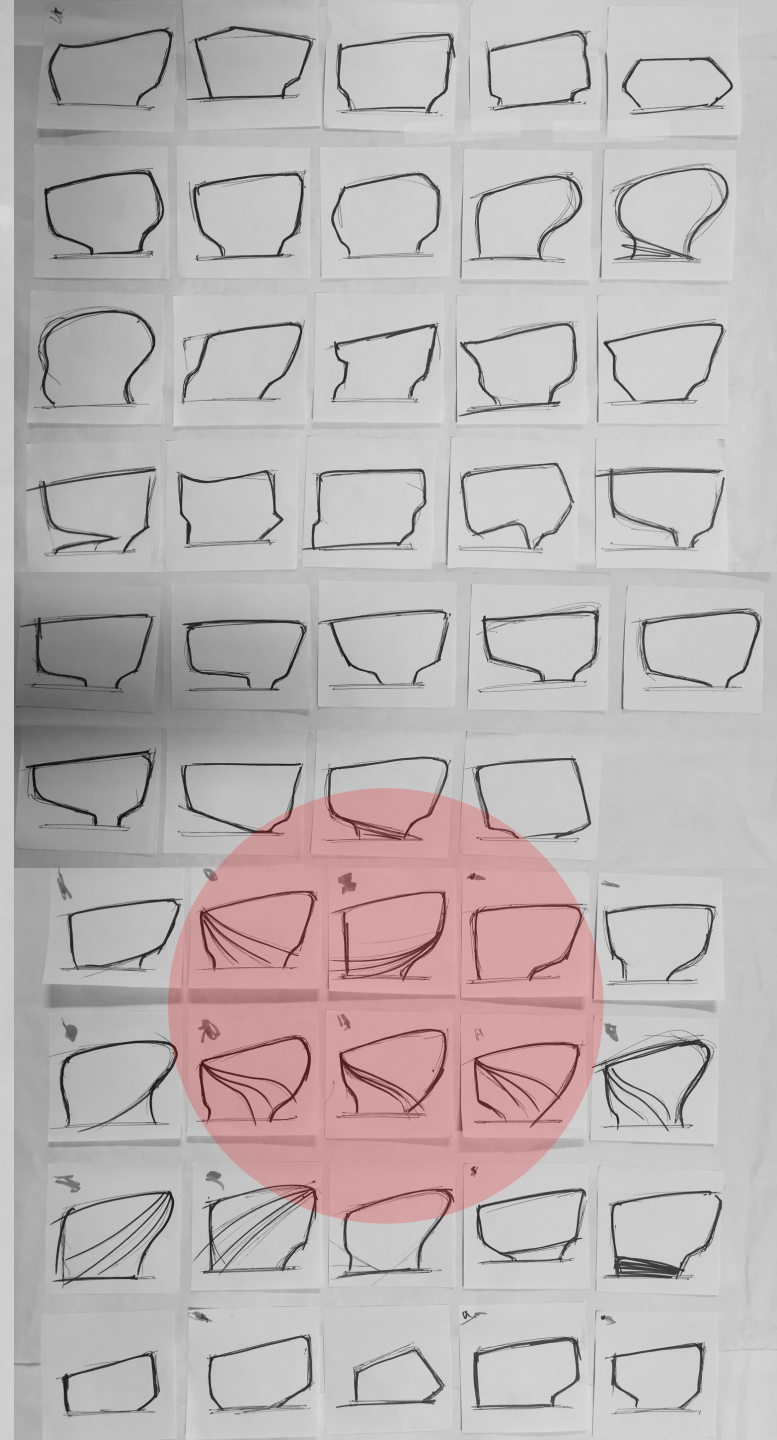
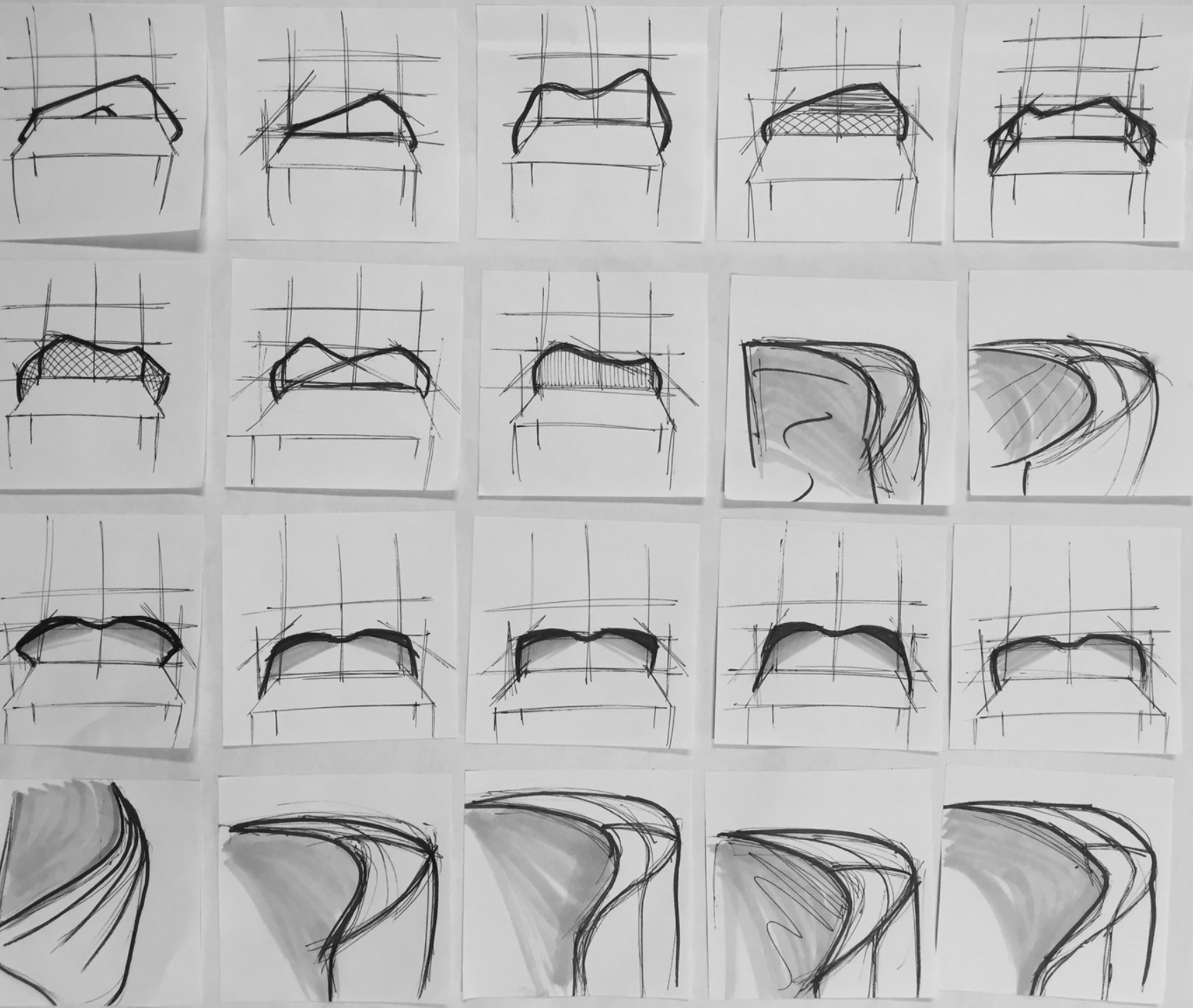
FORM EXPLORATION

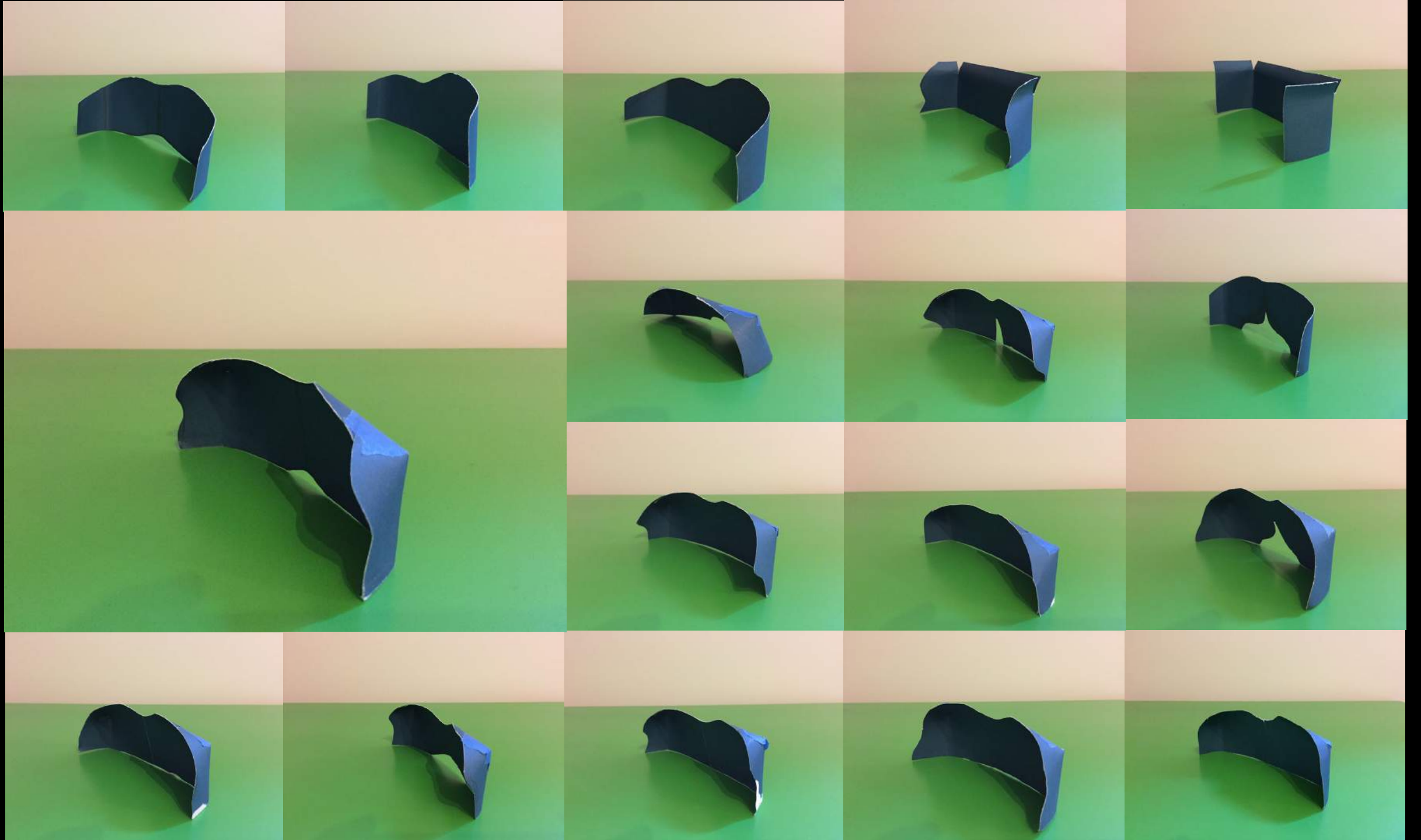








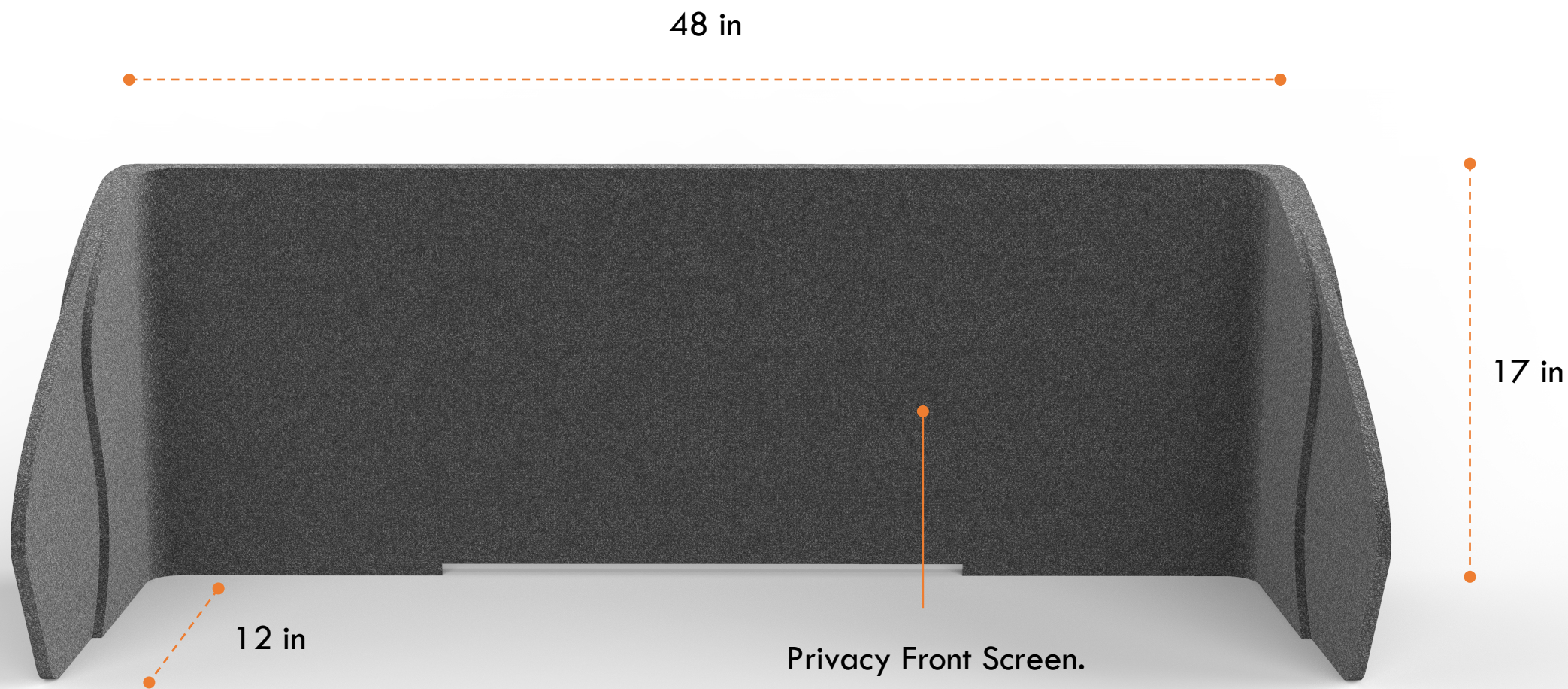




Final Design









Third layer covered  
using PET felt

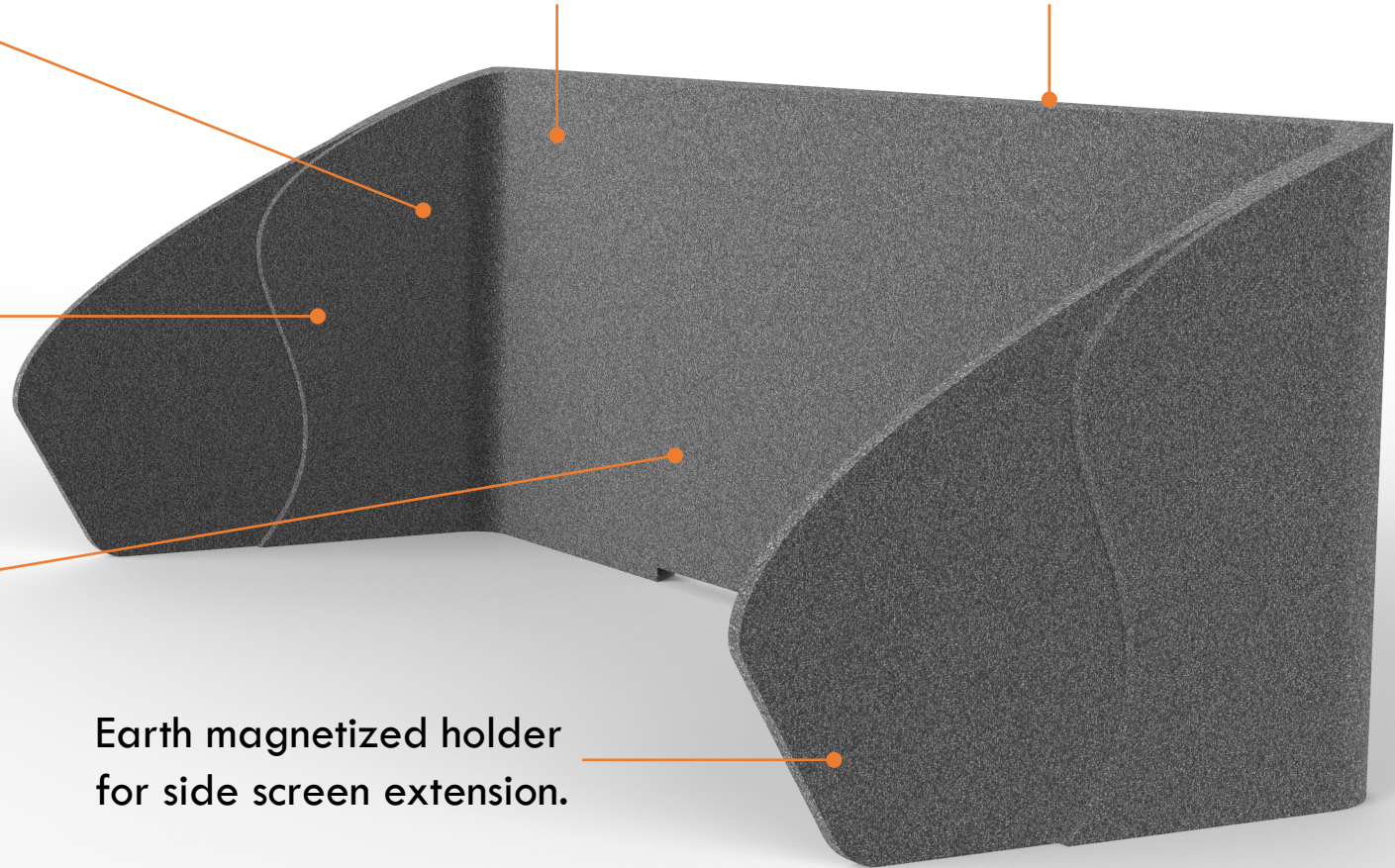
Second layer covered using  
non-woven polyester fiber

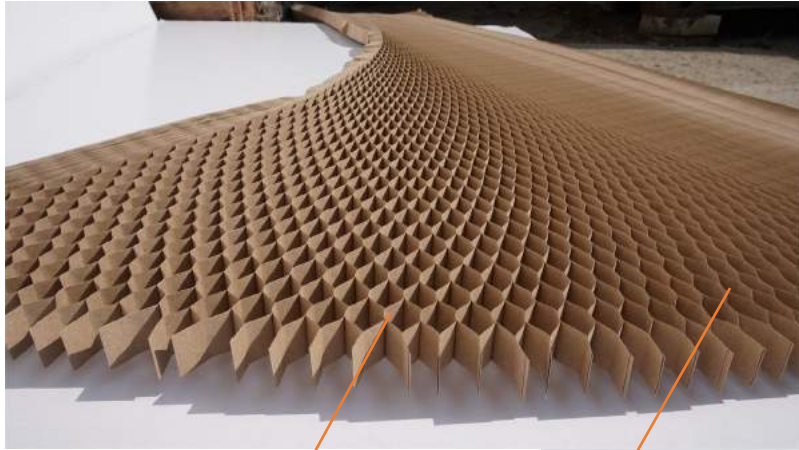
Internal core made from  
reinforced honeycomb cardboard

All-round sound-absorbing  
feature and resistant to  
sound transmission.

Tackable/pinnable

Earth magnetized holder  
for side screen extension.





Core: Honeycomb Cardboard

Internal air gaps in the unique structure honeycomb cardboard captures sounds waves, hence reducing sound transfers across room.

Second layer:  
Non-woven polyester fiber



Anti microbial, anti fungal and does not warped under moisture.

Excellent pin holding characteristics and will not crumble over time.

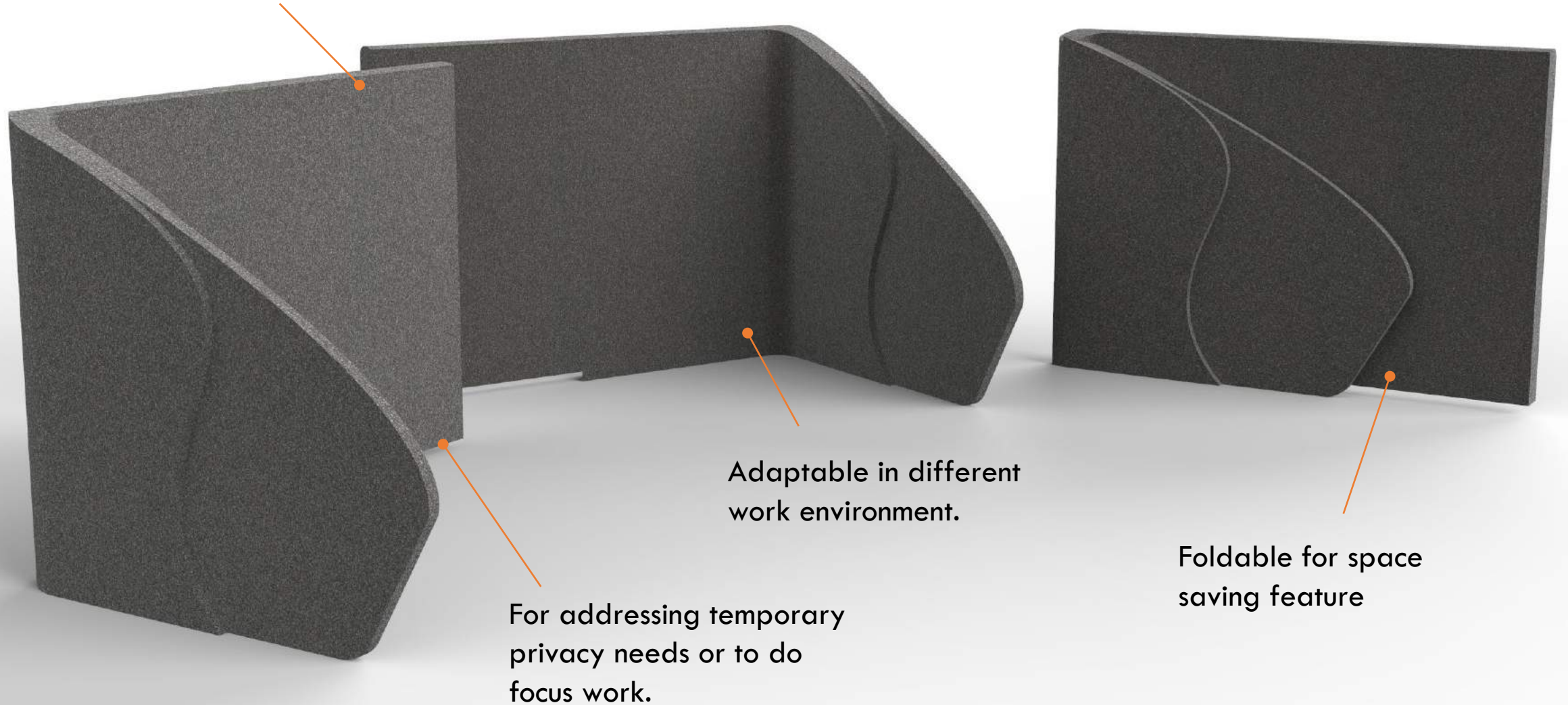
Made from post consumer content like plastic beverage bottles and 100% recyclable.

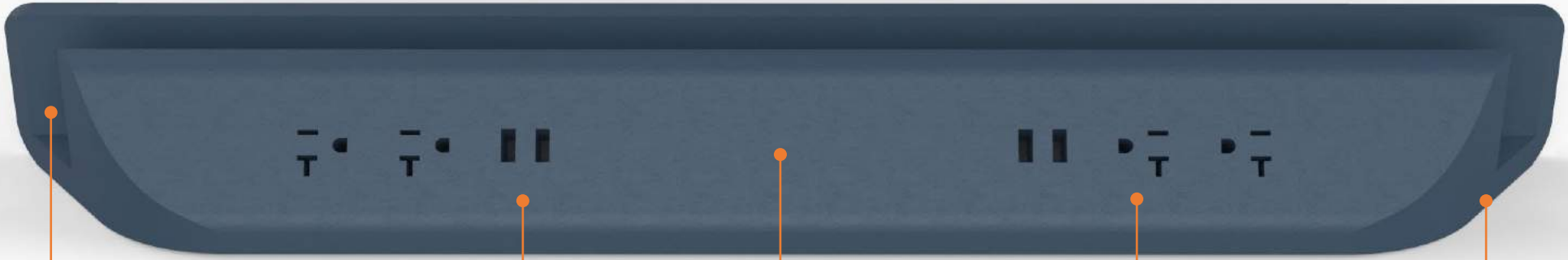
Third layer: PET Felt





The flexibility to combine into one full privacy screen or uses half depending on needs.





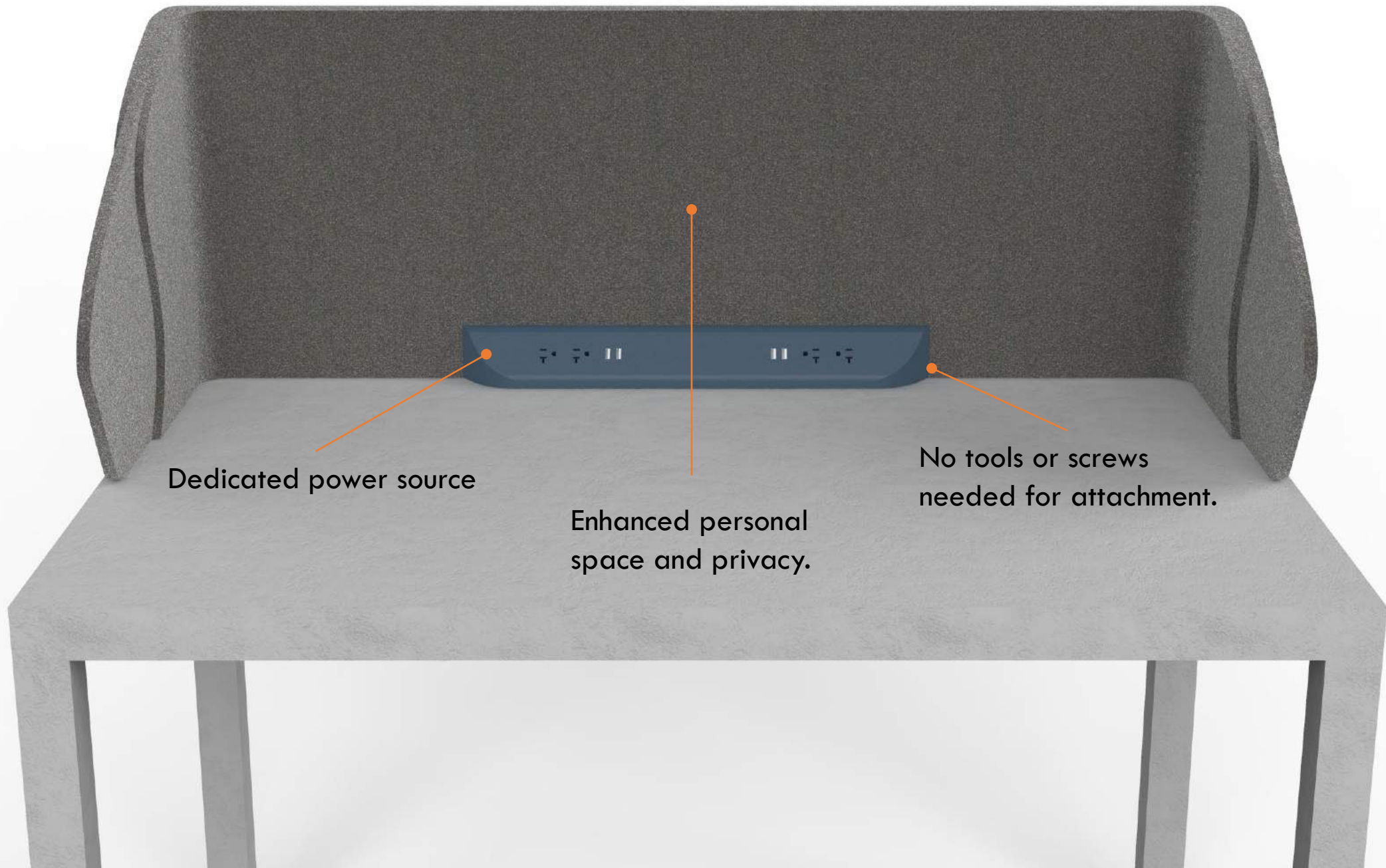
Base for front privacy screen

USB Port

High Impact ABS

Power Supply

Uses suction cup attachment



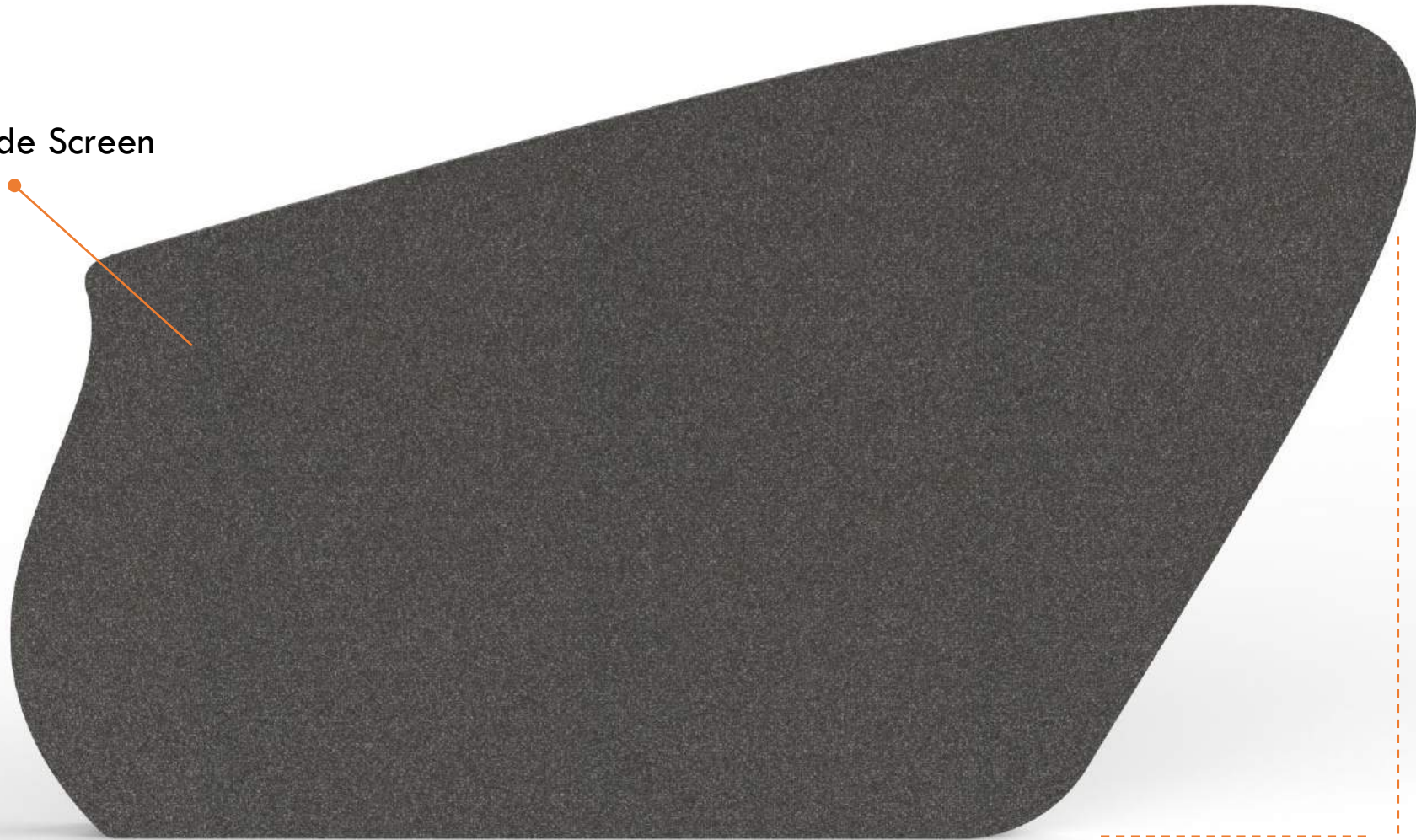
Dedicated power source

Enhanced personal  
space and privacy.

No tools or screws  
needed for attachment.



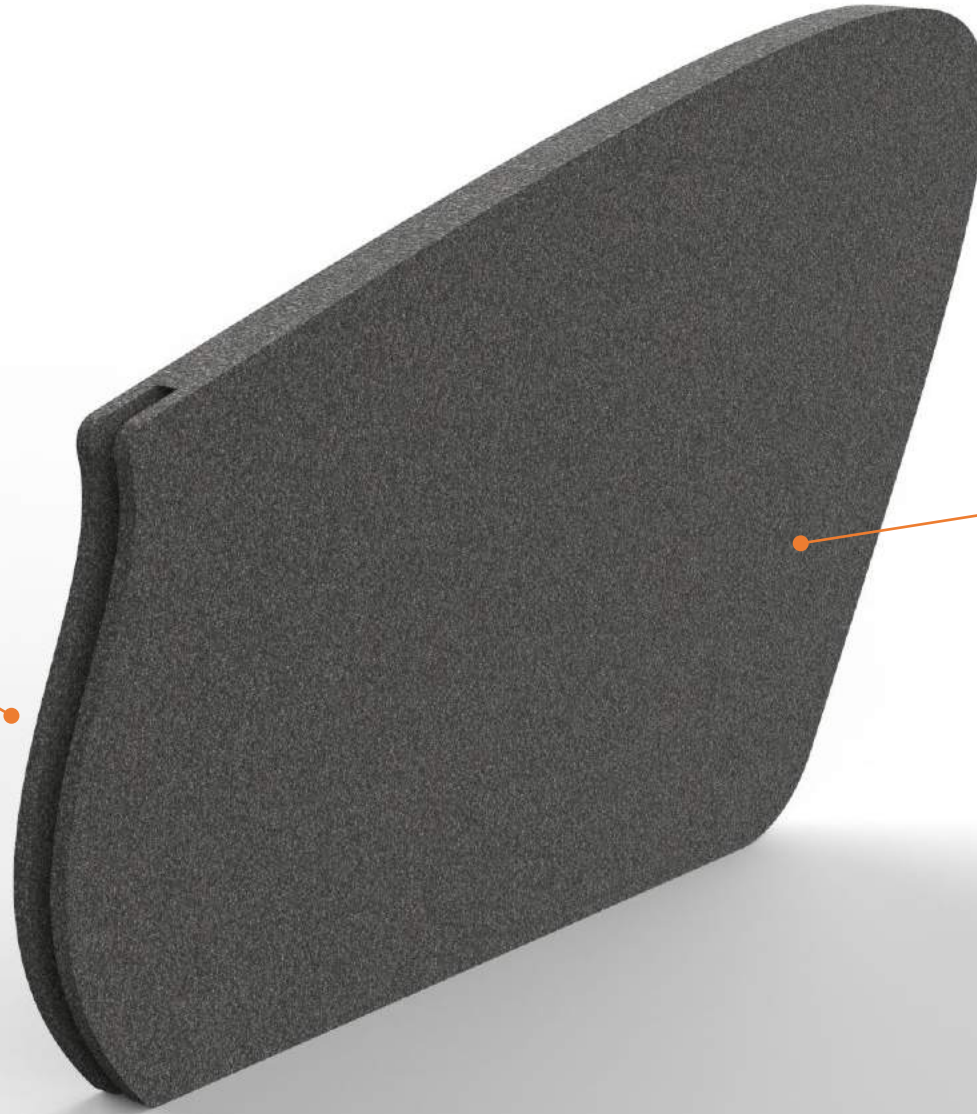
Privacy Side Screen



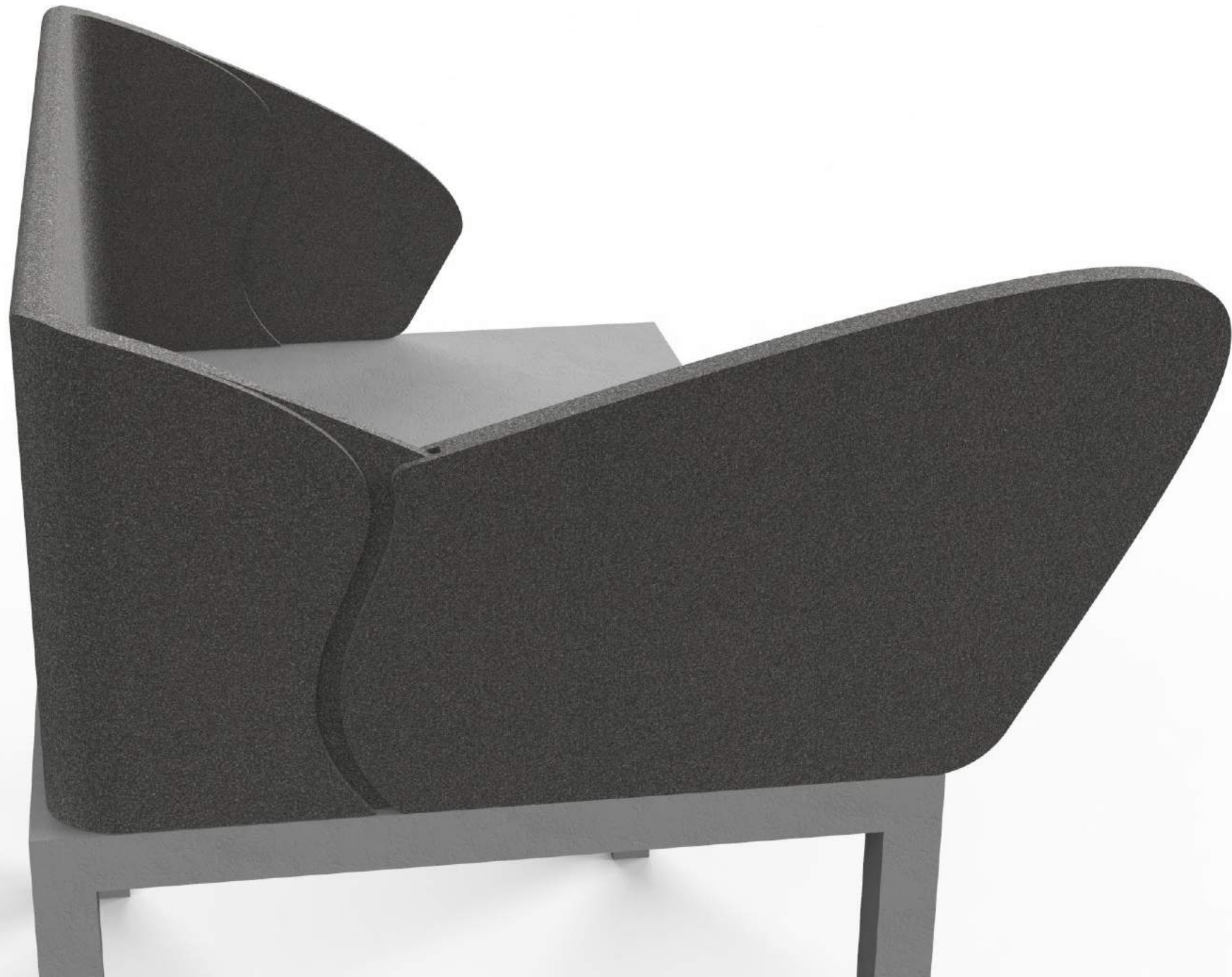
7" Overhang for added visual privacy



Earth magnetize cut out  
profile for attachment  
to front screen



tackable/pinnable



Earth magnetized  
wing connector for  
wall screen extension

Reinforced honeycomb  
cardboard as core

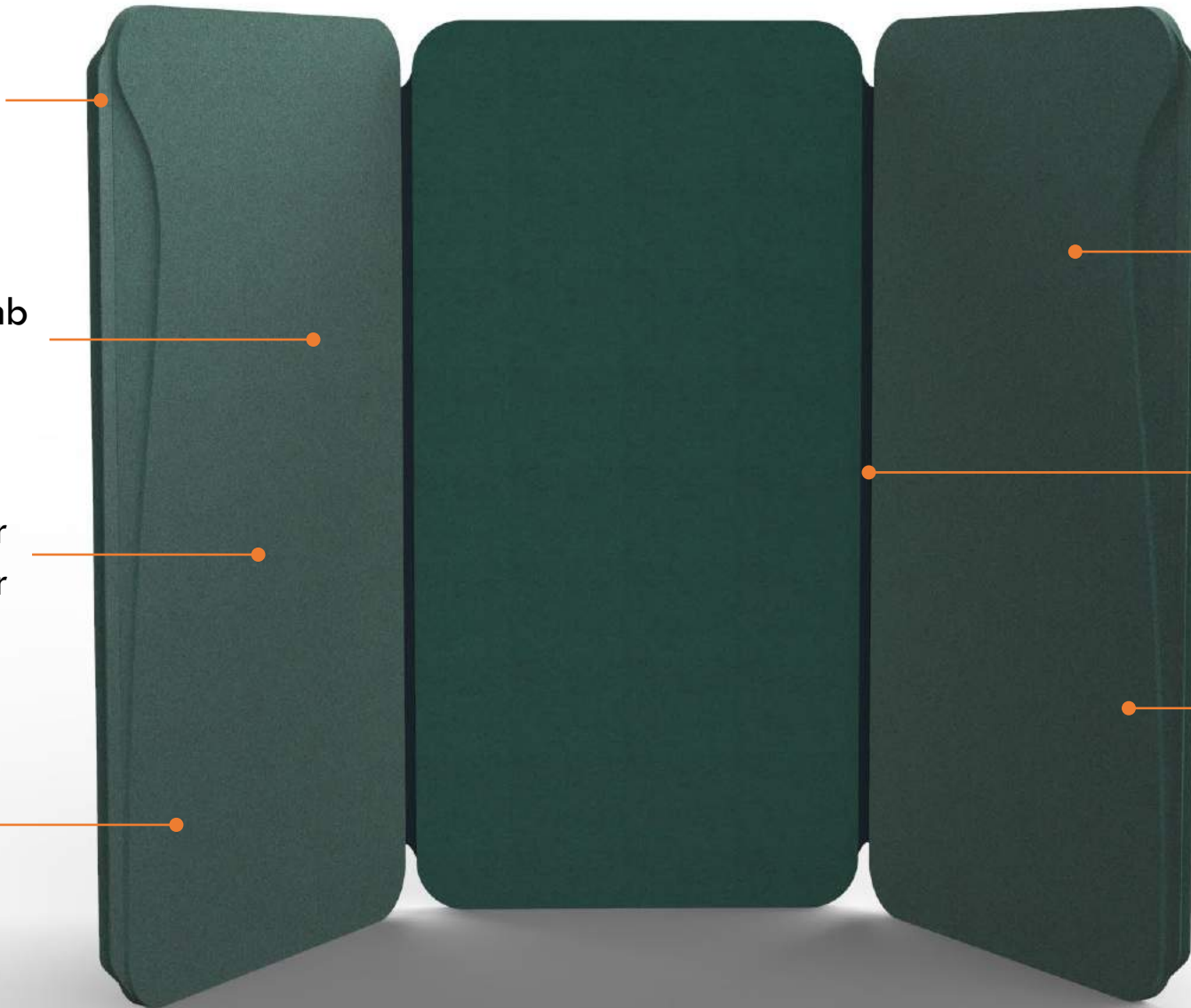
Non-woven polyester  
fiber as second layer

PET felt, ideal for  
absorption of  
airborne noise

Tackable panel

Fabric hinges

Wall Screen



Create different zones  
for different types of  
activities.

Ability to adapt to various  
collaborative work needs.



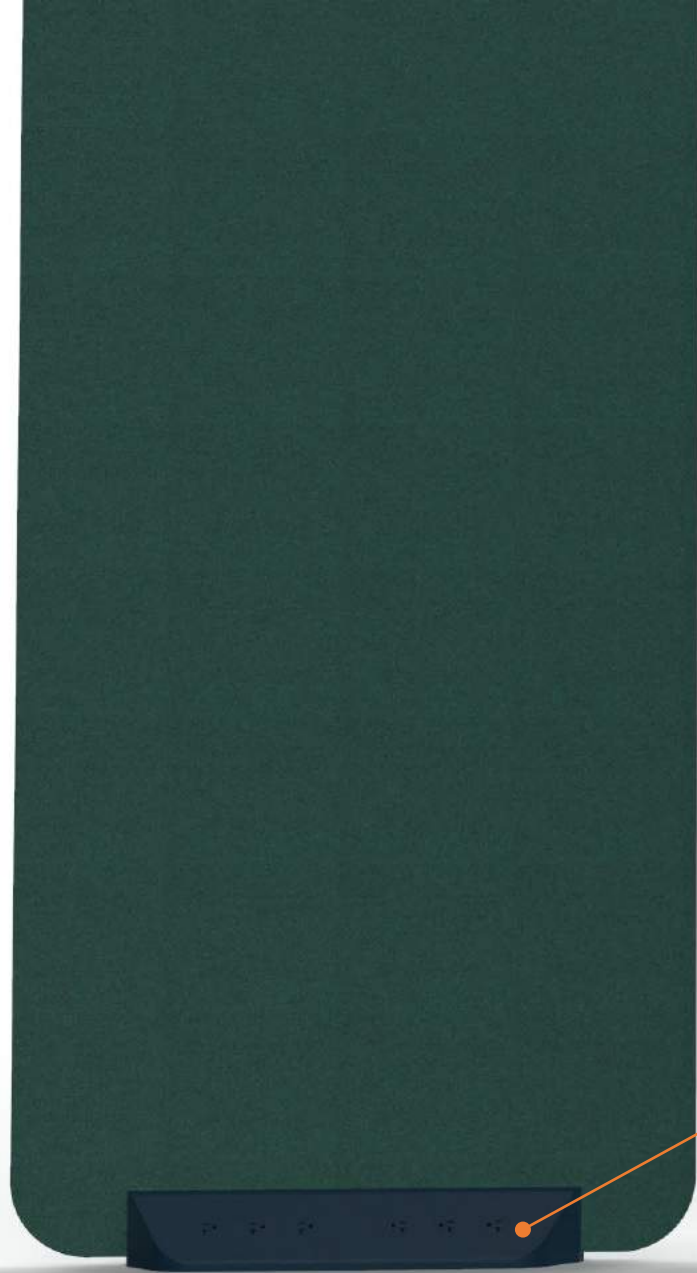


7 ft



6 ft





High Impact ABS



Includes 6 charging port  
on each side

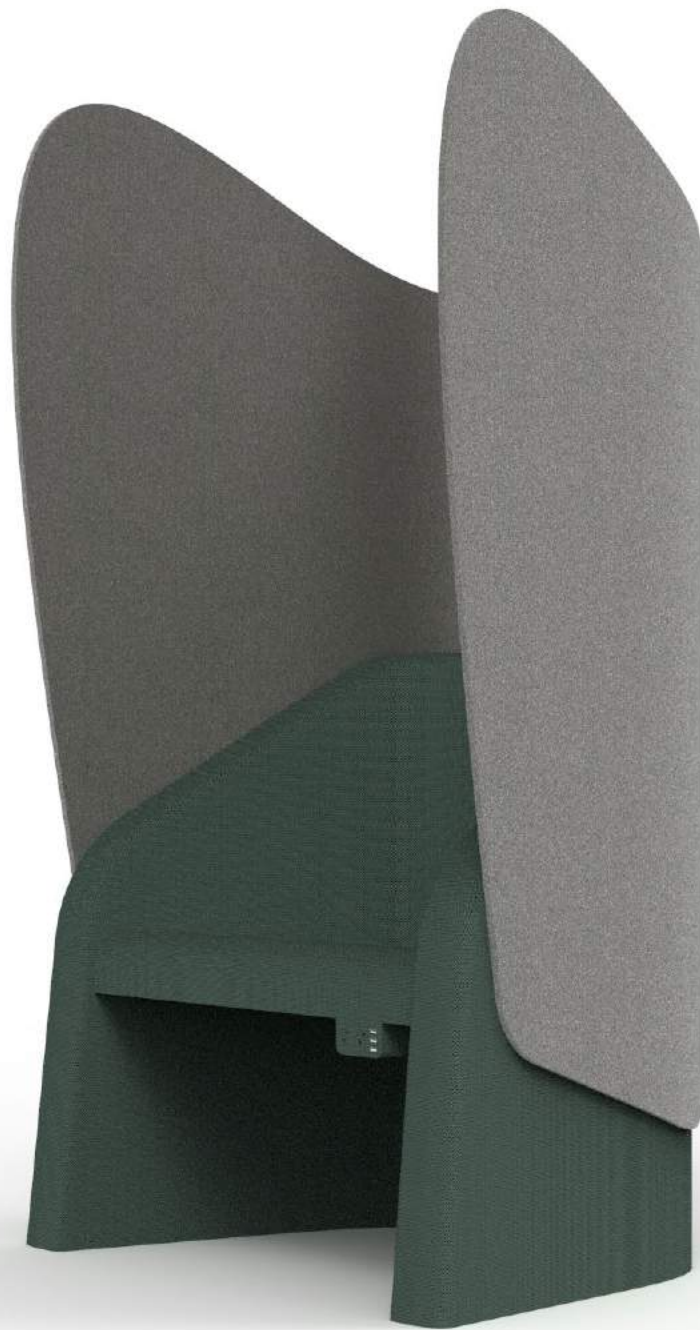
Power source and base  
for wall screen





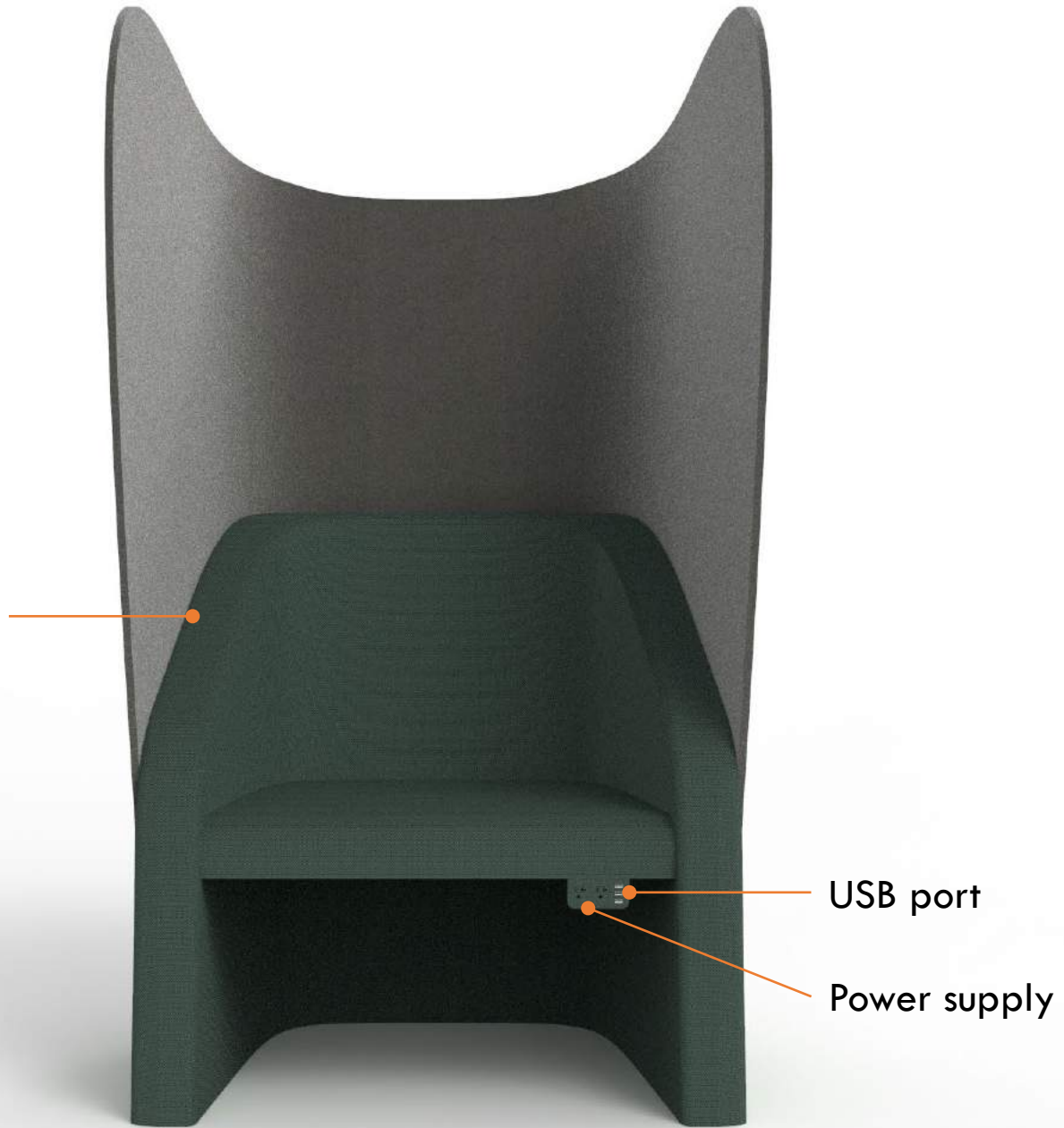


Compression molded PET Felt



55 in

Ideal for rest, focus  
work, personal phone  
conversation or to  
simply seek a change  
in environment from  
distractions.



USB port

Power supply







# References

- Adams, P. C. (1995). A Reconsideration of Personal Boundaries in Space-Time. *Annals of the Association of American Geographers*, 85(2), 267-285.
- Arieff, A. (2011, August 22). It's Not About the Furniture: Cubicles, Continued. Retrieved from <https://opinionator.blogs.nytimes.com/2011/08/22/its-not-about-the-furniture-cubicles-continued/>
- Auld, C. J., & Case, A. J. (1997). Social Exchange Processes in Leisure and Non-leisure Settings: A Review and Exploratory Investigation. *Journal of Leisure Research*, 29(2), 183-200.
- Beckerman, J. (2017, May 08). Muting Unwanted Noise in an Open Office. Retrieved from <https://hbr.org/2015/12/muting-unwanted-noise-in-an-open-office>
- Bernstein, E. S., & Turban, S. (2018). The impact of the 'open' workspace on human collaboration. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1753), 20170239.
- Birnholtz, J. P., Gutwin, C., & Hawkey, K. (2007). Privacy in the open. Proceedings of the 2007 International ACM Conference on Supporting Group Work - GROUP 07.
- Brennan, A., Chugh, J. S., & Kline, T. (2002). Traditional versus Open Office Design. *Environment and Behavior*, 34(3), 279-299.
- Collaborative Spaces - media.haworth.com. (n.d.). Retrieved from [https://media.haworth.com/asset/28519/Collaborative Spaces Whitepaper\\_C2.pdf](https://media.haworth.com/asset/28519/Collaborative%20Spaces%20Whitepaper_C2.pdf)
- Coworking, Swarming, and the Agile Workplace. (n.d.). Retrieved from [https://www.hermanmiller.com/content/dam/hermanmiller/documents/research\\_summaries/wp\\_Coworking\\_Swarming.pdf](https://www.hermanmiller.com/content/dam/hermanmiller/documents/research_summaries/wp_Coworking_Swarming.pdf)
- Cunningham, L. (2014, June 04). Office design for introverts, by an introvert. Retrieved from [https://www.washingtonpost.com/news/on-leadership/wp/2014/06/04/office-design-for-introverts-by-an-introvert/?nooredirect=on&utm\\_term=.0790b9fd4139](https://www.washingtonpost.com/news/on-leadership/wp/2014/06/04/office-design-for-introverts-by-an-introvert/?hpid=hp_hp-top-table-main-office-design:homepage-link&utm_term=.0790b9fd4139)
- Designing for Focus Work - Haworth. (n.d.). Retrieved from [http://media.haworth.com/asset/83961/Focus White Paper\\_Haworth.Final.pdf](http://media.haworth.com/asset/83961/Focus%20White%20Paper_Haworth.Final.pdf)
- From Conventional to Collaborative - Herman Miller. (n.d.). Retrieved from [https://www.hermanmiller.com/content/dam/hermanmiller/documents/research\\_topics/Collaboration\\_Scenario.pdf](https://www.hermanmiller.com/content/dam/hermanmiller/documents/research_topics/Collaboration_Scenario.pdf)
- Future-Proofing the Startup Office. (n.d.). Retrieved from <https://www.knoll.com/knollnewsdetail/future-proofing-the-startup-office>
- Gall, C. C. (2016, March 29). How Culture Shapes the Office. Retrieved from <https://hbr.org/2013/05/how-culture-shapes-the-office>
- Grønbaek, J. E., Korsgaard, H., Petersen, M. G., Birk, M. H., & Krogh, P. G. (2017). Proxemic Transitions. Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems - CHI 17.
- Harford, T., & Harford, T. (2016, December 16). Why every office should scrap its clean desk policy. Retrieved from [https://ideas.ted.com/why-every-office-should-scrap-its-clean-desk-policy/?utm\\_campaign=social&utm\\_medium=referral&utm\\_source=linkedin.com&utm\\_content=ideas-blog&utm\\_term=business](https://ideas.ted.com/why-every-office-should-scrap-its-clean-desk-policy/?utm_campaign=social&utm_medium=referral&utm_source=linkedin.com&utm_content=ideas-blog&utm_term=business)
- Haslam, S. A., & Knight, C. (2010). Cubicle, Sweet Cubicle. *Scientific American Mind*, 21(4), 30-35. doi:10.1038/scientificamericanmind0910-30

# References

- How to Catalyze Your Workplace for Growth. (n.d.). Retrieved from <https://www.hermanmiller.com/research/categories/white-papers/how-to-catalyze-the-workplace-for-growth/>
- Kaluzny, Z. (2015, March 05). Open offices seem great - until you work in one - The Boston Globe. Retrieved from <https://www.bostonglobe.com/magazine/2015/03/05/open-offices-seem-great-until-you-work-one/F2Zy3BqCfbMTm4Mn6gVBzH/story.html>
- Kim, J., & Dear, R. D. (2013). Workspace satisfaction: The privacy-communication trade-off in open-plan offices. *Journal of Environmental Psychology*, 36, 18-26.
- Knowlton, S. W., & Berger, C. R. (1997). Message Planning, Communication Failure, and Cognitive Load Further Explorations of the Hierarchy Principle. *Human Communication Research*, 24(1), 4-30.
- Kreamer, A. (2014, July 23). Workers, Take Off Your Headphones. Retrieved from <https://hbr.org/2012/04/workers-take-off-your-headphon>
- Latané, B., Liu, J. H., Nowak, A., Bonevento, M., & Zheng, L. (1995). Distance Matters: Physical Space and Social Impact. *Personality and Social Psychology Bulletin*, 21(8), 795-805.
- Lerner, G. H. (1996). Finding "Face" in the Preference Structures of Talk-in-Interaction. *Social Psychology Quarterly*, 59(4), 303.
- Media.haworth.com. (n.d.). Retrieved from <http://media.haworth.com/asset/53957/ChangeYourSpaceBooklet.pdf>
- Memory and Productivity - Haworth. (n.d.). Retrieved from [http://media.haworth.com/asset/28555/Memory and Productivity\\_C3\\_FINAL.pdf](http://media.haworth.com/asset/28555/Memory and Productivity_C3_FINAL.pdf)
- Moos, R. H. (1996). Understanding environments: The key to improving social processes and program outcomes. *American Journal of Community Psychology*, 24(1), 193-201.
- New Work. New Rules. (2019, April 02). Retrieved from [https://www.steelcase.com/teams/?utm\\_source=schomepage&utm\\_campaign=teams](https://www.steelcase.com/teams/?utm_source=schomepage&utm_campaign=teams)
- Oldham, G. R. (1988). Effects of changes in workspace partitions and spatial density on employee reactions: A quasi-experiment. *Journal of Applied Psychology*, 73(2), 253-258.
- Optimizing the Workplace for Innovation: Using Brain ... (n.d.). Retrieved from <http://media.haworth.com/asset/107074/Optimizing the Workplace for Innovation - Course Outline.pdf>
- Physical Space and Social Interaction - media.haworth.com. (n.d.). Retrieved from <http://media.haworth.com/asset/28568/Physical-Space-and-Social-Interaction.pdf>
- Privacy Ideabook - steelcase.com. (n.d.). Retrieved from <https://www.steelcase.com/resources/documents/privacy-ideabook/>
- Redman, C. C., Fayard, A., Weeks, J., & Vischer, J. (2016, March 29). Balancing "We" and "Me": The Best Collaborative Spaces Also Support Solitude. Retrieved from <https://hbr.org/2014/10/balancing-we-and-me-the-best-collaborative-spaces-also-support-solitude>
- Research Findings: Does Workplace Design Affect Employee ... (n.d.). Retrieved from [https://www.hassellstudio.com/docs/hassell\\_research\\_workplaceattaction\\_webversion.pdf](https://www.hassellstudio.com/docs/hassell_research_workplaceattaction_webversion.pdf)

# References

- Robinson, D. T., & Balkwell, J. W. (1995). Density, Transitivity, and Diffuse Status in Task-Oriented Groups. *Social Psychology Quarterly*, 58(4), 241.
- Samani, S. A., Rasid, S. Z., & Sofian, S. B. (2014). A Workplace to Support Creativity. *Industrial Engineering and Management Systems*, 13(4), 414-420.
- Schaller, M., & Latané, B. (1996). Dynamic Social Impact and the Evolution of Social Representations: A Natural History of Stereotypes. *Journal of Communication*, 46(4), 64-77.
- Schwartz, B. (2017). The Social Psychology of Privacy. *People and Buildings*, 152-169.
- Shikaloff, R. F. (2017, December 05). Being Engaged at Work Is Not the Same as Being Productive. Retrieved from [https://hbr.org/2017/02/being-engaged-at-work-is-not-the-same-as-being-productive?utm\\_campaign=hbr&utm\\_source=facebook&utm\\_medium=social](https://hbr.org/2017/02/being-engaged-at-work-is-not-the-same-as-being-productive?utm_campaign=hbr&utm_source=facebook&utm_medium=social)
- Simons, J. (2017, May 18). IBM, a Pioneer of Remote Work, Calls Workers Back to the Office. Retrieved from <https://www.wsj.com/articles/ibm-a-pioneer-of-remote-work-calls-workers-back-to-the-office-1495108802?mod=e2fb>
- Stock, T. (2011, September 19). The Psychology of Space (Urban Academy). Retrieved from <https://www.slideshare.net/scenariodna/the-psychology-of-space-urban-academy-9325708>
- Stout, C. C. (2015, March 16). Stop Noise from Ruining Your Open Office. Retrieved from <https://hbr.org/2015/03/stop-noise-from-ruining-your-open-office>
- Sundstrom, E., Burt, R. E., & Kamp, D. (1980). Privacy at Work: Architectural Correlates of Job Satisfaction and Job Performance. *Academy of Management Journal*, 23(1), 101-117.
- The Privacy Crisis - Steelcase. (n.d.). Retrieved from <https://www.steelcase.com/research/360-magazine/the-privacy-crisis-issue-68/>
- Three Ways to Think Critically About Your Space. (n.d.). Retrieved from [https://www.hermanmiller.com/content/dam/hermanmiller/documents/research\\_topics/Three\\_Ways\\_to\\_Think\\_Critically\\_About\\_Your\\_Space.pdf](https://www.hermanmiller.com/content/dam/hermanmiller/documents/research_topics/Three_Ways_to_Think_Critically_About_Your_Space.pdf)
- Visual Distraction Effects on Deliberate Focus Work. (n.d.). Retrieved from <http://media.haworth.com/asset/96533/VisualDistractions.ResearchReport.201708.Johnson.pdf>
- Weeks, A. F. (2014, October 07). Who Moved My Cube? Retrieved from <https://hbr.org/2011/07/who-moved-my-cube>
- What It Takes to Collaborate - Herman Miller. (n.d.). Retrieved from [https://www.hermanmiller.com/content/dam/hermanmiller/documents/research\\_topics/What\\_It\\_Takes\\_to\\_Collaborate.pdf](https://www.hermanmiller.com/content/dam/hermanmiller/documents/research_topics/What_It_Takes_to_Collaborate.pdf)
- Zalesny, M. D., & Farace, R. V. (1987). Traditional Versus Open Offices: A Comparison of Sociotechnical, Social Relations, and Symbolic Meaning Perspectives. *Academy of Management Journal*, 30(2), 240-259.